

S. Hrg. 113-542

**EXTREME WEATHER IN ALASKA:  
STATE AND FEDERAL RESPONSE TO IMMINENT  
DISASTERS IN THE ARCTIC**

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**HEARING**

BEFORE THE

SUBCOMMITTEE ON EMERGENCY  
MANAGEMENT, INTERGOVERNMENTAL RELATIONS,  
AND THE DISTRICT OF COLUMBIA

OF THE

COMMITTEE ON  
HOMELAND SECURITY AND  
GOVERNMENTAL AFFAIRS  
UNITED STATES SENATE

ONE HUNDRED THIRTEENTH CONGRESS

FIRST SESSION

**FIELD HEARING IN ANCHORAGE, ALASKA**

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## **EXTREME WEATHER IN ALASKA: STATE AND FEDERAL RESPONSE TO IMMINENT DISASTERS IN THE ARCTIC**

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**SEPTEMBER 13, 2013**

U.S. SENATE,  
SUBCOMMITTEE ON EMERGENCY MANAGEMENT,  
INTERGOVERNMENTAL RELATIONS,  
AND THE DISTRICT OF COLUMBIA,  
OF THE COMMITTEE ON HOMELAND SECURITY  
AND GOVERNMENTAL AFFAIRS,  
*Washington, DC.*

The Subcommittee on Emergency Management, Intergovernmental Relations, and the District of Columbia of the U.S. Senate Committee on Homeland Security and Governmental Affairs met, pursuant to notice, at 2 p.m., in Anchorage, Alaska, Hon. Mark Begich presiding.

### **OPENING STATEMENT OF SENATOR BEGICH**

Chairman BEGICH. Thank you, for those that have rearranged your schedules. I was just joking that we can fly to the moon, put things on Mars. We can go to the bottom of the ocean. We can drill 5,000 feet under the ocean floor, but when it rains in Washington, you can not get a plane off the ground. It is the most amazing thing. So thank you for being patient while I traveled here today and again, good afternoon, thank you and welcome.

This is the Subcommittee on Emergency Management, Intergovernmental Relations, and the District of Columbia. As I said, many of you have traveled a great distance to be here today, so thanks for being here and welcome to Anchorage. I apologize again for the hectic schedule. As you know, the weather made a big difference.

We appreciate your flexibility and willingness and we thank Nana Regional Corporation for allowing us to use this great room here. We appreciate them allowing and changing the schedule a little bit.

Today, at this Subcommittee's first field hearing, we will examine the impacts of extreme weather on Alaska Native villages and long-term strategies for mitigating risk associated with the changing climate. Alaska's unique position as an Arctic State presents both advantages and challenges, as we work to support and preserve our State's economy, social and cultural structure.

One of the most immediate challenges is how we are adapting to the evolving threats of extreme weather. Alaska's remote location and unique vulnerabilities put our State on the front lines to ex-

pose gaps and highlight the need for flexibility in disaster related policies across the Federal Government.

There are many things you can learn from Alaska's experience and we have an opportunity to lead the way in reducing risk and supporting sustainable communities. Tornadoes, hurricanes, earthquakes, and I have to say for a second, the DC staff, I know experienced an earthquake, I think it was yesterday. So they got a good feel. We like to welcome them when we are doing emergency preparedness, let's just have an earthquake to start it off.

They occur with little warning and happen quickly, but erosion and flooding and sea level rise are long-term events that can have far reaching effects without meeting the threshold of a disaster as defined by the Stafford Act. I like to call these prolonged disasters.

Coastal or river erosion may not be enough to qualify a community for Federal disaster declaration, but extreme weather can often make these issues worse, leaving communities at higher risk. Over the years, Congress and other members of the Federal Government have examined the threats of erosion and flooding to Alaska Native villages. In 2004, the Army Corps of Engineers was directed by Congress to conduct an Alaska erosion baseline study released in 2009.

In addition, the Corps was provided with the authority to carry out, at full Federal expense, structural and nonstructural projects for storm damage prevention and reduction of coastal erosion and ice and glacial damage in Alaska, including relocation of affected communities and construction of replacement facilities.

While authority was provided for this action, sufficient funds have not been appropriated. The Energy and Water Appropriation Act of 2005 contained Section 117, which provided direct assistance for coastal erosion in nine Alaska villages and by all accounts was quite successful.

However, this authority was replaced in March 2009, against my objections. Earlier this year, the Senate Committee of Appropriation, of which I am a member of, passed an energy and water appropriation bill for the fiscal year (FY) 2014, that supported language which provides 30 million dollars in a larger shore protection funding category that could go to Alaska projects.

While we still have to pass the appropriation bill in the Senate and then reconcile it with the House version before final passage, I am committed to seeing this language survive and look forward to working with the Corps to assure the funding remains available for the critical projects throughout the State.

The Corps's 2009 assessment identified 26 immediately threatened villages, some of which are represented here today on our second panel of witnesses, actually first panel. Unfortunately, the list of 26 has grown over the years and shows no sign of getting smaller.

More immediately threatened villages have been identified by various agencies and organizations and the list of critically vulnerable villages has grown to 31. According to the Government Accountability Office (GAO), at least 12 of the 31 immediately threatened villages have decided to relocate in part or entirely, or to at least begin to explore relocation options.

The villages at greatest risk would have to move on a tighter timeframe since they continue to suffer flooding and erosion and have limited evacuation options should their situation worsen. Other at-risk villages that are considering relocation have the option of gradually migrating to a safer location over time.

The seemingly ad hoc approach to community relocation does little to make strides toward a risk reduction strategy. At the request of Congress, the GAO has published research into Alaska Native villages threatened by erosion and flooding.

In 2009, the GAO, released a report on Alaska Native villages, limited progress has been made on relocating villages threatened by flooding and erosion. The report ended with recommendations that have yet to be acted on and could provide a road map for future committee action.

I look forward to working in my capacity as Chair of the Subcommittee to ensure the GAO continues to focus on Alaska's issues and updates their recommendations to reflect the State's most current needs. Alaska's an indiscernible State with a common goal promoting thriving communities in the face of increasingly uncertain and extreme weather.

We live in a State that challenges to confront the realities of a changing climate sooner than any other State, but what we learn here in Alaska must not be confined within our borders. We have a responsibility to help make the Federal policy as flexible as possible, so the Nation can adapt to new climate realities. Without a plan to incorporate evolving threats and hazards into community planning, critical infrastructure will remain incapable of surviving the long-term effects of climate change.

Until we have a comprehensive picture of the risk our citizens are facing, we will continue to struggle to lessen our risk in support economically, culturally and socially viable communities here in Alaska and around the country. This is not just an Alaskan priority. It is a priority for the Nation and I look forward to hearing the testimony today as we continue this discussion.

This meeting is called to order and let me just say that we have done a couple of things here, and I appreciate the staff putting this together. Usually, you see committee hearings that the four witnesses are there and they are facing this way and everyone sees their backs.

The last two we have done, we do them this way, because as we talk about these issues, we want them to feel as comfortable as possible, they are not just talking to me. So we appreciate the folks that are here. I know we are trying to tie someone in by phone, is that true? Are they connected?

Unidentified SPEAKER. Yes.

Chairman BEGICH. OK, let me introduce the first panel. Again, we thank everyone for being here. We thank you for adjusting your schedule. First, I will introduce all three and then I will ask them to each start with their testimony. The first one is Vivian Korthuis, right?

Ms. KORTHUIS. Korthuis.

Chairman BEGICH. Korthuis, and currently serves as Project Development Director for the Association of Village Council Presidents (AVCP). Vivian is originally from Emmonak on the Lower

Yukon River and you are here probably for Myron, I bet. Thank you very much, Vivian.

Thomas Ravens is a professor at the University of Alaska, Anchorage. Dr. Ravens' research is focused on two principal areas. Coastal processes and renewable energy includes field, laboratory and modeling work. Thank you for being here.

Online, we have Melanie Bahnke—is currently the President Chief Executive Officer (CEO) of Kawerak, Incorporated, regional nonprofit tribal consortium in the Bering Strait Region of Alaska where there are 20 federally recognized Tribes. Do you all want to do them in this order—do we want to—OK.

Let me start with Vivian and then I will go to Thomas and then Melanie, I will have you on last and hopefully, you can hear us OK here. Vivian, thank you very much again for being here.

Ms. KORTHUIS. Is this on?

Chairman BEGICH. It is on.

Ms. KORTHUIS. Great, thank you.

Chairman BEGICH. If it is red, it is on.

**TESTIMONY OF VIVIAN KORTHUIS,<sup>1</sup> PROJECT DEVELOPMENT DIRECTOR, ASSOCIATION OF VILLAGE COUNCIL PRESIDENTS, BETHEL, ALASKA**

Ms. KORTHUIS. Good afternoon, Mr. Chairman and Committee Members. My name is Vivian Korthuis. I am the Project Development Director for the Association of Village Council Presidents in Bethel, Alaska. AVCP is the regional Native nonprofit corporation for 56 Tribes along the Yukon/Kuskokwim River and the Bering Sea Coast.

Thank you for inviting AVCP today to address you regarding the Tribal issues related to disasters in the Arctic. The Arctic is changing, which means our homeland is changing. The Elders in our region are observing these changes. Our communities are being directly impacted. We have seen floods, extreme weather, rivers and streams changing course, and lakes drying up on the YK Delta. The impact of these events have had on our villages includes changes to our traditional hunting and fishing and relocation of whole communities.

Over time, we have established community response teams which have included health aides, city and Tribal police, school administrators, Tribal administrators and local community leaders, who have taken it upon themselves to plan and implement local disaster responses.

Many of our villages do not have adequate infrastructure that is required to take care of people in crisis.

We have seen this recently with the example of the flood in Crooked Creek. In this situation, we witnessed the resilience of our people and our communities. As a regional Native Tribal Consortium, we must address every disaster in our region with the resources that are available to us. We rely on the Tribal Administrator to take the lead in planning for and responding to community disasters which may occur at any time of the year.

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<sup>1</sup>The prepared statement of Ms. Korthuis appears in the Appendix on page 35.

Overall, our region is truly not prepared for a large-scale weather or industrial disaster occurring either along the Yukon River, Kuskokwim River or Bering Sea coast. Our 56 Tribes and communities will take the lead in anything that occurs within the village, but our villages will need help.

The help our villages need sometimes comes in many different ways, including planning, preparing for and responding to the mitigating, long-lasting environmental impacts from erosion, floods and extreme weather. The best way we know how to do this is at the community level. We know what works in our villages and how best to prepare for either an unexpected crisis or a planned relocation of a community.

Our region must improve the capacity to be disaster resilient. We recommend that every community have an emergency plan. Some villages are not prepared and some villages are. The key players in the community involve the Tribal Police or Village Public Safety Officer, as well as the City Managers and Tribal Administrators. The health aides play a key role in the community. Funding must be available for all communities to have community plans.

The region also needs a centralized response and recovery plan. AVCP has been working on this for the past several years. We propose to develop the Western Alaska Emergency Response Center, which will aid in the coordination of all emergency responses in our region, and then I am going to jump to the end and say that again, the best way we know how to deal with disasters in the Arctic, our homeland, is at the community level and we are requesting assistance from both the State and the Federal Government to be completely prepared and ready to respond to any disaster along the Yukon River, Kuskokwim River and the Bearing Sea coast. Thank you.

Chairman BEGICH. Thank you very much and just again, for the record, all your written testimonies are included in the official record, too. So I thank you for jumping to the end there. Let me go to Thomas, go ahead and do your testimony.

**TESTIMONY OF THOMAS RAVENS,<sup>1</sup> PROFESSOR, DEPARTMENT OF CIVIL ENGINEERING, UNIVERSITY OF ALASKA ANCHORAGE**

Dr. RAVENS. Thank you, Senator, and welcome to you and other distinguished guests. I am a professor of Civil Engineering at the University of Alaska, Anchorage. I have been here for 6 years. Prior to Alaska, I was a tenured professor at Texas A&M University and before that, I did my Ph.D. at MIT on the east coast.

So I am telling you all that because—to show you that I understand coastal processes, both from the Lower 48 perspective and from the Alaska perspective and things are really quite different up here is Alaska, especially the northern part of Alaska.

In the Lower 48, the main cause of coastal change is mechanical processes. In Alaska, especially northern Alaska, thermal processes are very important. A good part of the coastline is permafrost and the thawing of that coastline allows the sediments to be readily transported away.

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<sup>1</sup>The prepared statement of Mr. Ravens appears in the Appendix on page 38.

So approaches that may have worked in the Lower 48, really need to be changed to be successful up here in Alaska and we have done some preliminary work along those lines, which has been successful, but now, what I really want to talk with you today about is storm surge modeling on the YK Delta, which is on the west coast of Alaska.

Now, the YK Delta is home for 40,000 Alaskans, including many Native Alaskans. It is also the home of the wildlife, the Yukon Wildlife Refuge, which is a world-class center for nesting birds, but unfortunately, the Delta's very low elevation—only two meters above mean sea level and so it is very vulnerable to storm surges and that vulnerability will only increase, in fact drastically, with sea level rise.

So the goal of some research I am reporting on now was to really quantify—well, how vulnerable is the YK Delta, in particular, its ecology, to sea level rise? We assumed a 40-centimeter sea level rise and for this initial work, we are just projecting changes to vegetation due to that sea level rise.

We identified 10 historic storms. We simulated the inundation due to those storms. We calculated an annual inundation index, which is a measure of the expected amount of inundation on the Delta during a given year and the output of that is some kind of plot, like a contour plot showing exposure to inundation as a function of space and on the right, imagine a map of vegetation on the Delta and when you look at those two, you see a remarkable correspondence between the index, the inundation index, and vegetation type.

So for example, an inundation index of one to two-meter days per year corresponds with the presence of brackish wet sedge meadow, OK, so—which is a very salt tolerant species, which is why it can handle that inundation.

So we went back to the modeling and assumed, the second time around, a 40-centimeter sea level rise, recomputed the inundation due to that sea level rise, recomputed that annual inundation index and what we see is quite remarkable.

That level of inundation in one to two-meter days per year that used to be on the coast—that is on the coast now, would move seven kilometers inland with just a 40-centimeter sea level rise and presumably, the vegetation would move along with it.

So clearly, the Delta is very sensitive and vulnerable to sea level rise. The terrestrial life will also be affected. Sea level rise will also be impacting the water bodies in the areas. Rivers will become more saline causing change in species distributions. Ponds on the Delta will become more saline due to inundation. Those ponds are critical for the life cycle of the nesting birds in the Delta. So they are going to be very vulnerable.

So we have these great tools that we have developed and we are interested in not just applying them toward ecology, but also indiscernible communities and we recently submitted a indiscernible proposal to do just that, to help the city of Hooper Bay plan for the future, take into account sea level rise.

A lot of these coastal communities have water resources infrastructure, like drinking water infrastructure or waste water, that

are very vulnerable to sea level rise. Basically, water is going to get in their wells. They are going to get salty.

I believe that with this approach that we have developed, we can look around the State and help assess the vulnerability of different communities and so I propose that as something that might be useful for you all to ponder.

Another area that we have been working is, at least in our minds, is perhaps setting up a real-time—in a forecast system for inundation along the western Alaska coastline and I have talked with Amy Holman about this and the National Weather Service (NWS) people.

We have, for a project on—funded by the Western Alaska Landscape Conservation Cooperative, we have a group from the National Oceanic and Atmospheric Administration (NOAA), who is building a storm surge model that covers the Bering Sea with a coarse grid approach and that model is running, essentially in real-time and also in forecast mode.

We can take that data and use our fine-scaled model to translate projections of inundation on very high resolution for individual communities, which I believe would be a big improvement over currently what we are doing for these communities.

We more or less have everything in place and we just need to maybe do a demonstration project and that would make Alaska more in line with what's done in the Lower 48 in terms of storm preparedness. Maybe I am at the end of my 5 minutes. Thank you very much.

Chairman BEGICH. Thanks, Thomas. Let me go to Melanie online—I have been writing some questions down here, I want to ask the panel, but let's go ahead and if Melanie's online, go ahead and do your testimony.

#### **TESTIMONY OF MELANIE BAHNKE,<sup>1</sup> PRESIDENT OF KAWERAK, INC.**

Ms. BAHNKE. Yes, Senator, can you hear me?

Chairman BEGICH. Yes, we can, thank you.

Ms. BAHNKE. All right, thank you, Senator Begich, Senator Paul, and Members of the Senate Subcommittee for the opportunity to testify. I am Akighqukaaghaq, Melanie Bahnke and I am the President of Kawerak. I was raised on St. Lawrence Island, where you truly can see Russia from your house. Senator, we are looking forward to your visit tomorrow to Nome.

Chairman BEGICH. I am looking forward to it.

Ms. BAHNKE. Again, thank you for giving me this opportunity to present our challenges and recommendations. I am pleased that Congress and the Administration is focusing attention on tribal communities, erosion, disaster and community relocation issues.

The Bering Strait Region of Alaska is about the size of West Virginia. The population in our region is over 9,000, and the region is not connected to the rest of Alaska by road or rail. Seventeen of the 20 villages are not accessible by road at all from our hub community of Nome, except for in the summer. In winter, the ocean freezes over and barge services are cutoff. Air transportation for

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<sup>1</sup>The prepared statement of Ms. Bahnke appears in the Appendix on page 46.

freight and passengers is thus costlier in the winter. All of the communities in our region are located on the sea coast or shores of rivers.

Until compulsory education was imposed upon our people, Alaska Natives in our region often followed the game and established temporary settlements based on hunting and gathering seasons. With the influx of the missionaries, who were paid by the Federal Government, permanent settlements were established and in the 1930s, the Bureau of Indian Affairs forced some residents to relocate to the coast to save on mobilization costs.

We have seen the effects of climate change and erosion issue firsthand. Our organization has a Natural Resources Division and we have researchers who have collected data from hundreds of hunters and gatherers in our region, who have lived their whole lives observing the environment and they have witnessed many changes, such as a rise in sea level, later freeze-up, thinner ice, permafrost melting, changes in weather patterns, shorter winters, hotter summers, and due to later freeze-up of the ocean and absent physical protection from severe fall storms, several of our communities are experiencing rapid erosion of their shorelines and some may be better off relocated.

The Bering Strait Region has five villages in imminent danger posing threat to life and property. The 2011 Bering Sea winter storm was declared a disaster by President Obama. The storm threatened coastal communities because there are no current revetments, sea walls, protection in our villages, except for in three. Flooding occurred. Power was cutoff. Air transportation was cutoff and communication to some of our villages was lost for several hours. People were literally stranded and cutoff from the outside world.

Making things even worse, the threat of manmade disasters loom over our region as the increase in shipping through the narrow Bering Strait is being experienced. In 2012, we had an estimated 480 transits through the Bering Strait. This number might not seem high, but when you consider that the Bering Strait is only 50 miles wide at its narrowest point, is shallow and that the traffic is occurring in a condensed amount of time, there are risks for disasters.

Our Federal, State, local and tribal governments are ill-prepared for both natural disasters and manmade disasters in our region. There's no lead agency spearheading comprehensive efforts to prevent, mitigate and respond to disasters and there is a lack of co-ordination among the agencies that are tasked with carrying out the splintered components of these efforts.

Resources to carry out projects in our region have been limited. Often funding opportunities require a cost/benefit analysis that factors in population or require a local cost-share that is prohibitive.

Even when funding has been made available, we have experienced challenges in implementing practical solutions due to restrictive funding regulations. Excuse me, splintering funding sources together to address the comprehensive impacts of a community disaster is challenging, to say the least.

We do offer some recommendations. We recommend that the Immediate Action Work Group (IAWG) be reinstated. This model is

an exemplary model of coordinating State, Federal, and local leaders to prioritize projects, coordinate resources and implement projects. Resources should be allocated to support the coordination of efforts.

Priorities that have already been identified should be funded. We also ask that the U.S. Corps of Engineer's 2009 recommendations report be implemented and if a cost-share structure is necessary, that cost-share structure should be between the Federal Government and the State government, not local communities who practically have no tax base.

I also recommend that red tape be eliminated. We need to identify and eliminate regulations and policies that are prohibitive to access of funds. Identify and consolidate disaster funding; the current splintering of funding sources for disasters is complicated and cumbersome. Disaster prevention, planning, mitigation and response for communities should be viewed holistically and the resources required to fulfill these functions should be consolidated and provide flexibility.

Emergency preparedness support should be provided. Each community and region should have an emergency operation plan in place, as well as the equipment and resources necessary to carry out their plan should a disaster strike. Typically, when we are hit by storms, our storms are not hitting just one community. So therefore, we feel that it is necessary to have a regional disaster plan, emergency operation plan in place.

We request that U.S. Coast Guard (USCG) presence in the Arctic be increased and that a permanent U.S. Coast Guard base in the Bering Strait, which is the choke point between Russia and Alaska is reestablished and last, we ask that a model for practical collaboration with rural communities and Tribes be implemented.

The U.S. Coast Guard has actively established relationships, is communicating with and coordinating with Tribes in our region of Alaska. Other agencies, such as the Federal Emergency Management Agency (FEMA), the Corps of Engineers and the Departments of Homeland Security (DHS), both State and Federal, should follow suit.

Again, thanks for providing the opportunity to provide you with some insight to the issues and offer recommendations. The benefits of allocating resources proactively, as opposed to after a disaster, should be considered. No person in the most developed country in the world, regardless of ethnicity, should be subject to the threat of loss of life due to conditions that can be mitigated by governmental actions.

The United States is an Arctic nation and has an obligation to assert its sovereign authority and protect national interests. With that authority comes responsibility for disaster prevention, mitigation and response, especially in an area such as the Bering Strait region, which is exposed to international ocean traffic. Kawerak stands ready to be a partner with our Tribes, local, State and Federal Governments toward this end. Thank you.

Chairman BEGICH. Thank you very much, Melanie. I appreciate your testimony. I am going to spend a few minutes here asking some questions of all three and thank you, your last point there—I know some complain about government overreach, but this is

probably one place where the Federal Government has a role and responsibility.

Let me first, if I can, with Thomas, I want to make sure I understand what you laid out there and the way I am going to analyze it or say is hopefully—it makes sense and you can tell me if I am wrong here, but the concern is because of the low level, the ground level of Alaska lands, the rising sea level, which is salty water, as it continues to erode—create erosion or erode the areas around the coast or it moves in as sea level rises, it is now contaminating, and these are my words, contaminating the fresh water, as well as other types of vegetation that the Alaska Native community lives on.

For example, there may be areas, if you go seven kilometers in, you could wipe out an area, for example, where berry gathering is done because now you have salt water mixing in and you may have areas that are habitat for bird nesting, but also as potentially areas where there are egg collecting, as well as bird harvesting for subsistence use. So you may have impact on their habitat and they may not come back and then potential fresh water fish, now have salt water entering their areas.

Putting that aside, you then have this water interfering with water systems that some of the communities are pulling water right out of the current lakes for their water resources. Am I saying that right?

Dr. RAVENS. I think you basically got it right.

Chairman BEGICH. OK.

Dr. RAVENS. One thing I would just point out.

Chairman BEGICH. Let me make sure, that was two kilometers versus four—I mean, two kilometers—two centimeters here versus this, right? That's the distance we are talking about, the change, the two modelings you gave?

Dr. RAVENS. The 40 centimeters sea level rise.

Chairman BEGICH. Yes affirmative, 40 centimeters.

Dr. RAVENS. So average sea level rise—

Chairman BEGICH. Over a year?

Dr. RAVENS. No, whenever it happens, so—

Chairman BEGICH. Just a surge?

Dr. RAVENS. So you know, the National Climate Assessment came out recently and they projected a number of possible scenarios for sea level rise, say by the year 2100 and .4 meters or 40 centimeters is probably on the low end and then, 1 or 1½ is right in the middle and then 2 is on the high end. So we are expecting—

Chairman BEGICH. So you're measuring—your modeling is done—these are my words again, your—from two centimeters to 40, your extreme measure is actually the low measure?

Dr. RAVENS. Well, I'm sorry, it wasn't two centimeters, it was two meters.

Chairman BEGICH. Two meters, OK.

Dr. RAVENS. So the delta surface is two meters—

Chairman BEGICH. Right.

Dr. RAVENS. Above mean sea level and then there is something like a meter or a meter-and-a-half tidal range.

Chairman BEGICH. Right.

Dr. RAVENS. So as it is now, on a regular basis, there is flooding of the delta.

Chairman BEGICH. Right.

Dr. RAVENS. Almost every year, there is flooding with—

Chairman BEGICH. That's the two centimeters?

Dr. RAVENS. It varies. The amount of flooding in a given year—typically, you will have a surge of about 2, 2½ meters, which is enough to inundate—

Chairman BEGICH. Lots of areas.

Dr. RAVENS [continuing.] Tens of kilometers of the delta surface.

Chairman BEGICH. Got you.

Dr. RAVENS. And so what I am saying is if you add 40 centimeters on top of that—

Chairman BEGICH. And then the surges occur?

Dr. RAVENS. Then the surges occur, then you are going to cover a lot more—

Chairman BEGICH. Got you.

Dr. RAVENS [continuing.] Of the delta.

Chairman BEGICH. And again, these impacts, and I was just over the area probably now 2 weeks ago with the Secretary of Interior and we flew to the Arctic. We went to Lonely Point and we could see literally the erosion as it occurs.

It is not just a little bit of, people think that well, it is just a little bit of dirt falling off. It is big chunks because it is frozen. So as it eats away, and that chunk falls off and then it just starts to disintegrate.

Dr. RAVENS. Yes.

Chairman BEGICH. Because you are falling into the salt water, so the ice, it is disappearing very rapidly.

Dr. RAVENS. Yes.

Chairman BEGICH. And that dirt, literally just goes out.

Dr. RAVENS. Right, so amazingly, the north coast of Alaska, most of it is 70 percent ice by volume.

Chairman BEGICH. Right.

Dr. RAVENS. So it is basically a dirty ice cube and the Bering Sea—

Chairman BEGICH. You mean that in a positive way, so let's make sure that's clear.

Dr. RAVENS. And as the Bering Sea warms up, and it is warmed up very rapidly in the last 30 years or so, it is essentially just thawing those coastal bluffs and we are, in some places, seeing erosion rates of 50 meters per year and you are right, and it falls in these huge clumps.

Chairman BEGICH. Right.

Dr. RAVENS. It is called niche erosion block collapse and we have an excellent model of that process.

Chairman BEGICH. But I saw the real live thing.

Dr. RAVENS. You saw the real thing?

Chairman BEGICH. I mean, these were huge pieces of ground.

Dr. RAVENS. Yes, it is.

Chairman BEGICH. It was not like a little piece like this. I mean, it was a pretty good size. So as it was chewing away underneath it.

Dr. RAVENS. Yes.

Chairman BEGICH. It just literally came off.

Dr. RAVENS. Right.

Chairman BEGICH. And then it just disintegrates.

Dr. RAVENS. Yes, and the size of those chunks is related to the polygons up there. If you were looking from the—

Chairman BEGICH. Yes.

Dr. RAVENS [continuing.] Air, you see this sort of checkered board style—

Chairman BEGICH. We think people from somewhere else did that.

Dr. RAVENS. Right, and so those lines, are ice edges. It is ice and that's the weak point in the structure of the tundra, so—

Chairman BEGICH. Got you, kind of a fault line or the fracture lines?

Dr. RAVENS. Those are exactly right.

Chairman BEGICH. And if I can turn to Melanie, and I will come back to you, Thomas, on a couple of things—well, let me just finish with you. You had mentioned there is some work you are going do in Hooper Bay. How is that funded? Is that a sea grant or is that—how is that—

Dr. RAVENS. There was a national sea grant RFP that we responded to. They funded 4 out of about 25 proposals, but not ours. So we proposed this work, but it did not get funded.

Chairman BEGICH. So the real-time forecasting, and this is very interesting what you are talking about, because I can imagine NOAA folks are just ecstatic about this kind of information that they can get their hands on. I do not know if they are here with us.

Yes, this is the kind of stuff they love. There's Amy in the back, so I am just guessing, this is like dreams for you to be able to do real-time forecasting. Is the issue, and I think I know the answer to this, but I just want to have you put it on the record, I mean, there's not enough resource we are putting into this kind of research, is that a fair statement?

Dr. RAVENS. Well—

Chairman BEGICH. I mean, we are doing some, but not enough?

Dr. RAVENS. Basically, what we are doing now is, I am funded right now by the USGS.

Chairman BEGICH. Right.

Dr. RAVENS. And the USGS Climate Center and also the Western Alaska Landscape Conservation Cooperative and so we are building all these tools and all I am saying is that while these tools that we have built up, really for ecological research, could really be put to service to help human communities.

Chairman BEGICH. Right. To do better planning and strategies?

Dr. RAVENS. Basically, real-time, good information about; OK, we know a storm is coming. What is the best science that's available? What does that tell us the surge—what is the surge going to be in front of my house? What's it going to be over there? Is it going to be one meter? Is it going to be two meters 12 hours from now?

Chairman BEGICH. Right.

Dr. RAVENS. So that people have the information that they need to plan. This is really what's happening in the Lower 48. There is not really a comparable system in place in Alaska at that resolu-

tion, as far as I understand it. It just so happens that we have all the pieces in place to do this right now. We just need someone to say, "Do it," and kick in a little bit of money and we could do it at a particular village as a demonstration project.

We could demonstrate that, OK, these guys actually—they were not making it up. They can actually produce these projections. They're very accurate and then we will see, aha, we can do this. It costs so many dollars. Is this something we want to expand to other communities?

Chairman BEGICH. Can you, for the Committee, at some point, prepare something that explains doing a demonstration project, what it might entail, what kind of agency coordination and what kind of costing would be required?

Dr. RAVENS. Sure.

Chairman BEGICH. As best you can.

Dr. RAVENS. Sure.

Chairman BEGICH. I mean, it is not something, especially on the dollars, we would hold you, but just so I can get a better sense. Would you do that for the Committee?

Dr. RAVENS. I would be happy to.

Chairman BEGICH. Great. Let me, if I can, I am going to go to both Melanie and Vivian and you heard me kind of describe to Thomas—well, how I envision of this and I will start, if I can, with you, Vivian, because I think in your comments, you made some very positive statements about some of the work you are doing, but also, the concern you have is how it is affecting your, what is the right way to say it, your ability to harvest for subsistence and other uses. What was just described to me from an engineer/scientific, that is what you are seeing? Is that a fair statement?

Ms. KORTHUIS. Yes.

Chairman BEGICH. And do you think of your 56 communities, you had mentioned some have plans, some do not. Do you know how many do have plans now, roughly?

Ms. KORTHUIS. Two years ago, we took a survey of our communities to find out of the 56 Tribes, who has current community plans, which obviously includes an emergency preparedness plan, and of our 56 Tribes, only seven had current plans.

Chairman BEGICH. Current plans.

Ms. KORTHUIS. And we have the survey that we took, we have plans in our region that are from the 1970s to 1980s and maybe the seven plans that were completed recently are actually 2 years old now.

Chairman BEGICH. OK, and is—weighting the biggest stumbling block for the communities to develop those plans, is it financial resources? Is it expertise? Is it expertise within the Tribes?

Ms. KORTHUIS. No, I think the communities have the ability to plan.

Chairman BEGICH. OK.

Ms. KORTHUIS. And I think the opportunity for those—the Tribe, like the tribal government, the city government, the health corporation, all the entities that are involved, the schools, is the—

Chairman BEGICH. The village corporation?

Ms. KORTHUIS [continuing.] Opportunity for a facilitator to come in and help the community lay it out.

Chairman BEGICH. So you think that the tools are there, it is just someone needs to help just facilitate it?

Ms. KORTHUIS. Yes, with the funding.

Chairman BEGICH. That's the biggest challenge?

Ms. KORTHUIS. We would love to do that.

Chairman BEGICH. OK, let me ask you, from your region, are you doing, one of the things we are talking about a lot here is not only preparing for the emergencies, but the mitigation of emergencies, getting prepared for what we know, like for example, if we had this real-time forecasting, you could probably see some of the villages that would, if certain surges occur, what could really happen.

Do you have projects now that you are doing that are preparing or kind of mitigating or preparing for potential erosion situations, flooding situations, as the climate continues to change and the sea levels change? Is there projects that you are doing that you could describe?

Ms. KORTHUIS. I can not point to a specific project, but we do have the ability to—our region is so large and we have so many communities. We have 48 permanent settlements.

Chairman BEGICH. Right.

Ms. KORTHUIS. And they are all along two major rivers and along the Bering Sea coast. I brought a map of our region, if you want to refer to that.

Chairman BEGICH. OK.

Ms. KORTHUIS. So the map indicates that we have 840 miles of coastline, just coastline, which does not include the Yukon River and the Kuskokwim River. So each village has its own particular environment. As a region, we are proposing to create, what we are calling the Western Alaska Emergency Response Center.

Chairman BEGICH. Right, you had mentioned that.

Ms. KORTHUIS. And encompassed in that is the ability to take—coordination of the whole region in terms of anything that we can witness; floods—

Chairman BEGICH. The erosion activity.

Ms. KORTHUIS [continuing.] Erosion, all those different aspects of what's happening in our villages.

Chairman BEGICH. Is the idea of the center, would that be a local, State, Federal type of funding source or what's your thinking there?

Ms. KORTHUIS. Yes.

Chairman BEGICH. OK.

Ms. KORTHUIS. We would like to bring all the players together for that.

Chairman BEGICH. Do you have a proposal already?

Ms. KORTHUIS. Yes, I do have a proposal.

Chairman BEGICH. Will you submit that to the Committee?

Ms. KORTHUIS. Yes, I will do that.

Chairman BEGICH. Fantastic. Let me ask Melanie, you have heard some of the conversation we had. Let me ask you, you had several recommendations and one of them, which you have talked about, was the ability of better coordination and lead agency. Would you be willing to expand on that and then, you mentioned an action work group? Can you kind of help me understand that a little bit more? I understand the lack of coordination, but what

is the action work that you are thinking of and then, would that help get to that challenge?

Ms. BAHNKE. Yes, thank you, Senator. The Immediate Action Work Group began as an ad hoc group and it resulted in the U.S. Corps of Engineers' 2009 recommendation report. Following that, the creation of the Alaska Governor's Executive Subcabinet on Climate Change.

The goal was to address known threats to communities caused by coastal erosion, thawing permafrost, flooding and fires. This working group was effective because key decisionmakers, who actually had authority for resource allocation, were involved from the various Federal, State and local governments.

They all participated in the early stages of the project that were identified by priorities as the group were 100 percent federally funded from the Corps of Engineers under what was Section 117 of the Energy and Water Development Act of 2005.

The next stages would have required a local match of 35 percent and the Corps would have provided a 35 percent match and then the State would have provided the 65 percent funding. In 2009, as you are aware, Congress repealed Section 117 and then in 2010, Congress enacted Section 116, which requires projects to be cost-shared.

One example of the amount of cost-share that would have been required for a revetment project in Shishmaref is that the local community would have had to come up with \$6 to \$8 million dollars. This project was not completed.

So I think the model, itself, is a great model of coordinating State, Federal and local leaders to prioritize projects, coordinate their resources and actually carry out projects.

Chairman BEGICH. If I can ask you now, does the Executive Subcommittee, the Alaska Executive Subcommittee on Climate still exist? Does any—

Ms. BAHNKE. I am not aware—

Chairman BEGICH. I will ask the next panel. I was kind of asking it through you, looking at the audience here. So I saw a couple of acknowledgments here, that I'll be able to ask that on the next panel. Let me followup on this then, so the idea—one flexibility that you had also mentioned was, if there is going to be a required match, which as you remember, the 2005 117 required no match for these areas, but if there is going to be a match, then what you want to make sure happens is there is flexibility so it is not just local community, but the State can also match. Is that what you're also wanting to see happen?

Ms. BAHNKE. I would prefer that the State be required to provide the match. Our local communities have limited resources. We don't have a tax base.

Chairman BEGICH. Understood.

Ms. BAHNKE. Kawerak has utilized their own funds and put them up as match toward several Corps of Engineer projects. In fact, we have several projects right now that we're working on with the Corps where we are providing tribal funds as the match.

Chairman BEGICH. Great. I know the other issue around the Corps, and that is this cost/benefit analysis, which I know I'll talk to the Corps about on the next panel, but your point, and I want

to make sure I'm clear on this and I want to make sure this is part of the record, the way that cost/benefit analysis works really for communities of your size and Vivian's communities, they are too small of populations and when you do the analysis basis with population as a significant part or a part of the equation, you can not compete against larger cities that have bigger problems. Is that a fair statement?

Ms. BAHNKE. Yes, that is a very fair statement.

Chairman BEGICH. And so what you are looking for is some, at least, recognition because—I will use an example. In a community with a big population, the erosion that may be occurring that the Corps is doing the cost/benefit analysis, it may be a small project, maybe it is a few homes, but because the population is so big, it makes sense because the cost/benefit analysis works, but in a village, you may have the whole village disappearing into the ocean, but if there is not a big enough population, the cost/benefit analysis does not work. Is that—

Ms. BAHNKE. Exactly.

Chairman BEGICH. OK, and I think we have recognized this and it is something—we have talked to the Corps and we are trying to figure out the right solution here, because if we can find the right mix, and it may be that we have to recognize, as we recently did in the piece of legislation, we changed some language and we included what we call subsistence communities in one of the definitions, which is for small and boat harbor renovations, because what was happening, the definition was in the Corps bill that just came out of the Senate, the definition, it wouldn't have worked for us.

By adding that in, it creates an ability for small boat harbors, small areas, small populations, villages to be able to qualify for this money. So that is what, I guess, I am just speaking out loud here, maybe that is the kind of language we need to be speaking about, subsistence communities, because the impact is much more dramatic than just a few homes. It is the ability to survive.

Ms. BAHNKE. Correct, and we can not just up and move. I mean, we are not connected to roads.

Chairman BEGICH. Right.

Ms. BAHNKE. It is not like if you are in a town in Washington where you can just move, pick up your bags and move to another town.

Chairman BEGICH. Well, it is like what happened when—

Ms. BAHNKE. Permanent settlement where our people were forced to settle in for the most part when the compulsory education became a requirement.

Chairman BEGICH. Very good.

Ms. BAHNKE. I would like to point that out because the Federal Government had a hand in this.

Chairman BEGICH. Yes. No, your history, I appreciate you putting that into the presentation. Because of time and we want to get to the next panel, again, I want to thank all three panelists that are here. We have your written testimony. There will be some additional questions I will submit and, I will talk about at the end of this meeting, I will submit for the record for further questions, but I really do appreciate the input and the folks who are on the ground, literally, living in a changing environment in Alaska and

Thomas, thank you for your information and some interesting ideas on how to get better data that can help us do better planning. So thank you all very much.

We will pause for just a second while we change out panels here and they do a lot of nameplate changing here. Thank you all very much, Vivian, Melanie, Thomas, thanks.

Again, thank you for the next panel, and as the panel is here, you heard some of the questions. The way I like to run, at least the committee hearings I have and listening sessions that I do, is you should feel comfortable as you are doing your testimony, if there is an answer you want to give to any of the questions that were derived in the first panel, feel free to do that. That is fine with me. We just want to keep them to the limits of time so I can kind of squeeze in as many questions as possible.

I will do the same thing; I will introduce all of you and then I will just start in the same order I did introductions. First, David Miller is Associate Administrator for the Federal Insurance and Mitigation Administration with the Federal Emergency Management Agency. That is a big title. I am sure there is some abbreviation for it that you will tell me about.

Mr. Miller has served in this position since 2011 and previously served as Administrator of the Iowa Homeland Security Emergency Management Division from 2004 to 2011.

Ken Murphy is the appointed Regional Administrator for FEMA Region X. Mr. Murphy is responsible for developing, administering, coordinating FEMA's mitigation, preparedness, response, recovery programs for the State of Alaska, Idaho, Oregon and Washington. Thank you for being here.

Colonel Christopher Lestochi, did I say that right?

Col. LESTOCHI. Very close, Senator.

Chairman BEGICH. Thank you very much, assumed command of the U.S. Army Corps of Engineers Alaska District on July 2, 2012. I always will say this; we like that Alaska has its own district, just a little plug there.

Col. LESTOCHI. Thank you, sir.

Chairman BEGICH. John Madden is currently the Director of the Division of Alaska Homeland Security and Emergency Management and is not an unfamiliar face to this committee. He has testified more than once and was appointed in 2007. John, again, I was glad last night—was your last night as the President of the National Emergency Management Association (NEMA) and I know they had the forum here and they presented you with a little recognition and again, congratulations for your national role in NEMA as the President of the organization and for Alaska, we thank you for kind of representing us on that national level. So thank you very much for doing that.

Let me go ahead and start with David, and then we will just kind of go down this line here.

**TESTIMONY OF DAVID MILLER,<sup>1</sup> ASSOCIATE ADMINISTRATOR,  
FEDERAL INSURANCE AND MITIGATION ADMINISTRATION**

Mr. MILLER. Thank you, sir. Chairman Begich, thank you for the invitation to appear before the Subcommittee. I am David Miller the Associate Administrator for the Federal Insurance and Mitigation Administration of the Department of Homeland Security—it is a long title. I agree, sir, and I do not—

Chairman BEGICH. I think the last comments from Melanie was cut the red tape. So maybe she may cut those titles down.

Mr. MILLER. As far as I said, I am an Associate Administrator. I am not really an administrator. I just associate with them. It is an honor to be here today, though, with the other witnesses and represent the building of strong partners in our efforts to help the people of Alaska build, sustain and improve their capability to prepare for, protect against, respond to, recover from and mitigate against actually, not just the hazards, but the uniqueness of the hazards and the circumstances that you face here in Alaska.

As the Subcommittee is aware, FEMA is the lead Federal agency responsible for coordinating disaster response, recovery and mitigation efforts following Presidential declared emergencies and we use our programs and authorities that have been authorized by Congress and the President to meet the needs of the community. Our programs are intended to supplement that response activities and recovery programs of States, local governments and Tribes through grants, as well as through technical and planning assistance.

Our mitigation programs are guided by the National Mitigation Framework, which serves as a common platform for coordinating and addressing how the Nation manages risk. The framework also offers guidance on how the whole community can work together to build resiliency and reduce long-term vulnerability.

I would like to tell you about specific programs we offer to aid communities in Alaska and across America. Our Pre-Disaster Programs include the Pre-Disaster Mitigation Grant Program, the Flood Mitigation Assistance Program and the A National Flood Insurance Program (NFIP).

The Pre-Disaster Mitigation (PDM) Program funds mitigation projects and planning efforts identified and prioritized in State and local mitigation plans. This competitive grant program is funded through the annual appropriations process and includes projects such as the development of all hazard mitigation plans, seismic retrofitting of critical public buildings and the acquisition or relocation of flood prone properties located within flood plains.

The Flood Mitigation Assistance Program provides funding for structures located in the NFIP, participating communities. It includes projects to alleviate, relocate and acquire flood prone structures, as well as projects to upgrade culverts, building detention ponds and improve local storm water management facilities.

Flood Grant Programs in Alaska include \$600,000 provided to the coastal village of Shishmaref in 1998 for relocation of nine homes to higher ground. The NFIP, the Flood Insurance Program,

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<sup>1</sup>The prepared statement of Mr. Miller appears in the Appendix on page 50.

currently has 32 participating communities in Alaska, representing boroughs, cities, towns and Alaska Native villages.

Collectively, they maintain \$735 million in flood insurance coverage. Since 1978, the NFIP has paid 581 claims for \$5.9 million to Alaska residents. Twenty-eight of the 3,022 policies statewide, are subject to coastal flooding or 3,022 communities statewide are subject to coastal flooding and erosion hazards.

Many of those communities have elected to participate in the NFIP—are also eligible to participate in the community rating system, which provides a flood insurance premium discount for property owners who engage in flood plain management activities.

Community participation in the CRS in Alaska is relatively high when considering the State's small number of NFIP participating communities in the national average, with 18 percent participating. Here in Anchorage, the community receives a 20 percent discount on their premiums through their participation in the NFIP and CRS.

FEMA also offers assistance to State tribes and communities and individuals following disasters through its Public Administration Program, Individuals and Households Program and Hazard Mitigation Grant Program (HMGP). The Public Assistance Program offers assistance for the restoration of public and certain private non-profit facilities damaged by an event and reimburses cost associated with emergency protective measures and debris removal.

The Individual and Households Program helps ensure the essential needs of individuals and families are met after disasters so they can begin the road to successful recovery. The Hazard Mitigation Grant Program provides grants to State, local, and tribal governments to implement long-term hazard mitigation measures after a major disaster declaration.

Of the \$29.6 million in Hazard Mitigation Grant funds, obligated in Alaska since the inception of the program, \$7.5 million or 25 percent has been spent on relocation projects for Alaska Native villages.

While erosion control may be an eligible project under the HMGP, the scope of erosion in Shishmaref, for example, would require a major project, generally implemented by agencies, such as the Corps of Engineers, which has specific authority for these types of projects.

FEMA does not fund major flood control projects or provide assistance for activities for which another Federal program has a more specific or primary authority to provide.

In conclusion, FEMA will continue to be an active partner in efforts to address the complex vulnerabilities in Alaska and we are committed to doing whatever is within our authority to help the people of this great State. We are aware of the unique challenges on the ground and will continue to work with our partners through our regional office to develop creative solutions to meet the needs of Alaskans resilient people. Thank you and I would be very happy to answer any questions you may have, sir.

**TESTIMONY OF KENNETH MURPHY,<sup>1</sup> REGIONAL ADMINISTRATOR REGION X, FEDERAL EMERGENCY MANAGEMENT AGENCY, DEPARTMENT OF HOMELAND SECURITY**

Mr. MURPHY. Thank you, Chairman Begich for the invitation to testify before the Committee today. I have seen many familiar faces in my last 3 years here working and improving with the State and local communities' emergency management for all Alaskans.

At FEMA, we are aware of the unique issues and challenges that Alaskans face preparing for and recovering from a disaster. We also appreciate and try to understand fully the environmental challenges and we acknowledge that FEMA is only part of the team dedicated to responders, who work together to ensure that we are ready to respond to imminent disasters in the Arctic.

Together, we determine how to apply the right programs and resources in a way that prioritizes the needs of the survivors. We look to all of our partners to bring their best ideas and solutions to the hazards and the environmental conditions facing Alaskans.

Survivors deserve the whole spectrum of services, resources and programs available at each level of the government. No single agency will be able to meet all the needs at one time. It is truly a whole community effort.

Today, I will just highlight a few examples of what FEMA is doing in Alaska to improve our ability to respond effectively during extreme weather events and more importantly, provide some examples of ways we are supporting community and state-based efforts to identify hazards, reduce vulnerabilities and increase resilience.

First and foremost, communities need to have access to current information to assess their vulnerability, create strategic plans, prioritize hazard mitigation strategies. Over the last 5 years, FEMA has provided over \$2 million to the State to support local planning through Pre-Disaster Mitigation Programs.

Ninety-three communities currently have an adopted mitigation plan. Each of these plans are formed by local feedback and in many cases, multiple jurisdictions participated in the entire planning process. With these planning efforts, we have also explored several low-cost projects to design community-specific vulnerabilities, including regionally, a 35,000 retrofit program project here in Anchorage and in Kodiak.

Another crucial step in increasing community resilience is through active participation and large-scale exercises, like the upcoming Alaska shield exercise. Region X is partnering with the State of Alaska in its biannual exercise Alaska shield series going back to 2005.

In 2010, FEMA sent over 50 staff and several emergency vehicles to Alaska to participate in this exercise. Through real-time simulations, we have tested the State and FEMA's ability to perform critical functions in extreme cold weather conditions, as well as our ability to sustain first responders arriving in from the Lower 48 States.

2014, FEMA will again be committing to substantial resources to participate in the exercise celebrating the 50-year anniversary of the 1964 earthquake and we will be working on testing on the abil-

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<sup>1</sup>The prepared statement of Mr. Murphy appears in the Appendix on page 50.

ity to do our job in conjunction with the State to deal with severe disasters up here, survivors in extreme cold weather conditions.

One final example of our regional capacity to meet the needs of rural Alaskan communities is our disaster response in the community of Eagle. In June 2009, the Yukon River flooded causing major damage resulting in a Presidential disaster declaration. During the earliest days of the response, we worked with the community and our partners of this State to develop a strategy to better understand how vulnerable the community was to spring breakup.

Region X experts developed a series of products that helped the community and helped them make very difficult decisions to not rebuild in the hazardous areas of Eagle. Our priorities to create these tools and support the immediate and long-term recovery needs of local survivors.

Eagle was flooded again this spring, but only six homes were damaged. The old village of Eagle suffered no impacts where we actually moved the homes. The citizens, as a group and as a community, chose to relocate outside the hazard areas defined by our analysis in 2009. Eagle is safer and a more resilient community today due to the collective efforts of many response agencies.

We are committed to providing quality information, programs and products that give communities the tools they need to make informed decisions about risk. Harsh climates, environmental challenges necessitate proactive choices and a unified response. I am a firm believer that today's preparations predict tomorrow's outcomes. In Alaska, we are working tirelessly with our partners to ensure a safer tomorrow for Alaska. Thank you, Mr. Chairman.

Chairman BEGICH. Thank you very much. Colonel.

**TESTIMONY OF COLONEL CHRISTOPHER D. LESTOCHI,<sup>1</sup> DISTRICT COMMANDER ALASKA DISTRICT, PACIFIC OCEAN DIVISION, DEPARTMENT OF THE ARMY, U.S. ARMY CORPS OF ENGINEERING**

Col. LESTOCHI. Chairman Begich, thank you for the opportunity to appear before you today to discuss coastal storm damage and erosion issues in Alaska. Today, I will provide everyone a brief review of Corps erosion authorities and programs, highlight some of the challenges regarding coastal erosion affecting Alaska communities.

The Corps has several civil works authorities to address flooding and erosion problems. These Congressional authorizations include the Continuing Authorities Program, the Planning Assistance to States Program, the Tribal Partnership Program, the Flood Control and Coastal Emergencies authority, and Alaska-specific authorizations, such as Section 116 of the 2010 Energy and Water Development and Related Agencies Appropriations Act relating to Alaska flood, erosion and ice damage. Each of these authorities has different implementing rules and limitations.

In addressing erosion problems, the Corps works closely with local, State, Federal, tribal, and private interests to understand and incorporate the concerns represented by these various stakeholders. The Corps weighs the concerns, balances the needs, and

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<sup>1</sup>The prepared statement of Colonel Lestochi appears in the Appendix on page 60.

examines the risks, costs and benefits to determine Federal interest and to make technically, environmentally, socially, and economically sound risk-informed decisions. I would like to outline the authorities related to coastal erosion and what we've accomplished under them. Specifically highlighting two authorities, which I will call Section 117 and Section 116, which were created for the unique needs of Alaska. My written testimony contains information regarding the other Corps programs and authorities that can address erosion issues.

Section 117, now repealed, of the fiscal year 2005 Consolidated Appropriations Act authorizes the Secretary of the Army to carry out at full Federal expense structural and non-structural projects for storm damage prevention and reduction, coastal erosion and ice and glacial damage in Alaska, including relocation of affected communities and construction of replacement facilities. The Corps has utilized this authority. At Kivalina, 2,000 feet of shoreline protection was installed between 2008–2009. At Shishmaref, 1,375 feet of shoreline protection was installed between 2007–2009, and at Unalakleet, 671 feet of shoreline protection was initiated or installed between 2007–2009.

Section 117 was repealed in 2009. A new authority, Section 116 of the Energy and Water Development and Related Agencies Appropriations Act, 2010, provides a similar authority, however; Section 116 requires cost sharing of up to 35 percent non-Federal, whereas Section 117 had no cost sharing requirement.

The only Section 116 construction project undertaken to date is at Unalakleet, under the Alaska Coastal Erosion program, where the existing 671 feet of revetment is currently being extended to 1,500 feet. Appropriations under the heading of the Alaska Coastal Erosion program have been provided to fund projects using the Section 116 authority.

As noted in the June 2004 Government Accountability Office report on Alaska Native villages affected by flooding and erosion, it's often difficult for the majority of Alaska's small and remote communities to finance and meet the multiple criteria required for Federal participation in implementing a solution. The remoteness of many of the areas, severe weather conditions, and the subsistence economies of the communities are major contributing factors. Perhaps the biggest challenges are the costs and risks associated with implementing erosion control solutions in these often remote communities. These include high mobilization costs, the limited construction season, and the difficulty of obtaining and transporting adequate rock and other materials.

The March 2009 Alaska Baseline Erosion Assessment identified 178 communities that reported erosion problems. Twenty-six of them were deemed to warrant immediate attention. All 26 communities were contacted regarding ways the Corps could assist the communities. Six currently have active projects with the Corps. The remainder either did not request assistance or their projects were found to not meet the requirements of existing Corps programs or the non-Federal sponsor could not meet the cost-share requirements.

The risks associated with the coastal erosion challenges in Alaska are complex. Risk considerations include determining the ac-

ceptable level of protection from erosion and flooding, deciding whether to relocate or remain, and consideration of the economic, social, cultural and environmental impacts.

The Corps has the technical expertise to address solutions based on a systems approach and the capability to communicate and assist with risk-informed decisionmaking associated with the complex storm damage and erosion problems in Alaska's coastal villages. We are proud to work in collaboration with many Federal, State and local and tribal entities to assist in recommending and implementing solutions for coastal erosion challenges faced by these communities. Mr. Chairman, this concludes my statement. Again, I appreciate the opportunity to testify today and look forward to answering any questions you may have.

Chairman BEGICH. Thank you, Colonel. John, thank you, again, for being here.

**TESTIMONY OF JOHN W. MADDEN,<sup>1</sup> DIRECTOR, ALASKA DIVISION OF HOMELAND SECURITY AND EMERGENCY MANAGEMENT**

Mr. MADDEN. Well, thank you, sir, for this hearing and this opportunity to present the State perspective in this dialogue on preparedness for all of our Alaskan communities and especially those most directly affected by extreme weather.

Our State faces an extreme range of hazards, from nature, from humans and from technology and we are no stranger to disaster. We have experienced a declared disaster on average every ninety days since statehood and the State of Alaska seems to create and sustain a posture of preparedness enabling a swift coordinated response, enabling an immediate comprehensive recovery.

Our State handles most disasters with local and State resources. For the remainder, we do request assistance from the President, and here is just a short list, not a comprehensive list of our recent disasters; in 2007, a storm hit Kivalina with wave surges threatening to breach the barrier island. In 2008, three separate storms from the Pacific and Arctic and the Bering caused severe floods in Nenana and breached the seawall in Wainwright.

In 2009, Mount Redoubt volcano erupted 19 times from March to July, during which we had pandemic H1N1 in April and the break-up of the Yukon and Kuskokwim Rivers in May flooding dozens of communities with Eagle, Stevens Village and Tanana, the hardest hit and 527 fires burned close to three million acres.

In 2010, a late season Bering Sea storm through—sea spray drawn from rare open water onto power lines onto Savoonga causing widespread power outage.

In 2011, Crooked Creek on the Kuskokwim lost many residences in May from extreme flood and ice, and an extra tropical typhoon in October damaged dozens of western and northwestern communities with storm surges and high winds.

In 2012, intensive January storms brought record snowfall throughout the Prince William Sound communities and in September and October, other storms hit south central Alaska with damaging winds up to 130 miles-per-hour and widespread flooding

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<sup>1</sup>The prepared statement of Mr. Madden appears in the Appendix on page 65.

across 60,000 square miles and this year, in 2013, the Yukon River breakup, again, hit communities from Eagle to Emmonak with the heaviest damages at Galena and Circle.

The common factor throughout all these events is that we cannot rely upon the 30-year weather averages to guide our planning, rather, we must expect the unexpected and plan for the uncertainty.

In doing so, we consider the effects of the season, even the time of day, the demographics of the community, those with functional needs and we invest in the capabilities with the greatest probability of reducing risks, perhaps for more than one risk or hazard.

Many of our recent disasters occurred for the first time in each location in 30, 40, or even 100 years. Decades without a disaster does not decrease the possibility or probability of one happening tomorrow. Early in its administration, the Governor directed us to develop essential capabilities that could be counted upon under all conditions and throughout the State.

We have multi-tiered emergency communication system, completely independent of the commercial systems. We have a cache of emergency generators Arctic retrofitted and transportable by air, land and sea. We have a similar cache of water purification systems ready for deployment. In the last year, we developed the small community emergency response guide that distills many plans into a format for swift and decisive action. It even has a hole in it, so you can hang it on the wall so you can get to it very fast.

The Governor's priority and the consistent support from our Legislature have enabled the transformation of Alaskan preparedness from a reaction into a discipline. March 2014 does mark the 50th anniversary of our 1964 Good Friday earthquake and we will commemorate that event with the largest, most complex exercise in our history.

In the Alaska Shield 2012 exercise, we will simulate breaks in our supply lines and work to fix them. We will simulate disruption to essential services and work to bring them back. We will simulate separation of families and strive to reunite them and the consequences of the catastrophic earthquake mirror those of the extreme weather.

In summary, the State of Alaska faces threats, hazards and risks far disproportionate to our population and our people, our economy, even our culture, are at risk of severe disruption if we leave our preparedness to chance.

Our experiences with extreme weather in recent years require us to learn from the past, but not be blinded by it. Our greatest risks are the ones that we do not anticipate and for which we do not prepare, but through the leadership of the State, support of our communities, involvement with all of our partners, Alaska is a leader in the Nation in emergency management and our citizens deserve no less. Sir, with that, I will yield for all questions.

Chairman BEGICH. Thank you very much. Thanks to the panel. Thank you for all the information and again, the same thing with the last panel, all your written testimony will be part of the official record and I appreciate that. I'll try to move through some questions. Time will limit me and I'll probably submit some for the record for some followup.

Let me first, if I can, I want to start with the representatives from FEMA. A couple of things, first off, I know I had a hearing, I think it was a few months ago, where we talked about FEMA's Preparedness Grant Program. They delivered about 50 billion in preparedness grants over the years since the Department of Homeland Security was created.

Do you know how much, and if you don't know this, maybe for the record you can get it for me, how much of that money in those grants for preparedness went to looking at mitigation capabilities? I don't know if you know that answer. If you don't know, don't guess, because that's a big chunk of money, since Homeland Security was started, but how much actually went to mitigation components?

Mr. MILLER. I think the answer lies in this, Senator, in that within the mitigation programs and within the flood mitigation programs under the National Flood Insurance Program, there are some allocations for planning that we have every year and we can get you the answer on how much of that money has been used.

Chairman BEGICH. That would be great.

Mr. MILLER. That, notwithstanding, when you mentioned the Preparedness Grants—

Chairman BEGICH. Right.

Mr. MILLER. These kinds of activities are also eligible under the EMPG Program, the grants—

I have the wrong acronym, John.

Mr. MADDEN. Emergency Management Performance Grant.

Mr. MILLER. Yes, under those grants and the problem with the—

The problem with the EMPG grants is there is a lot of other eligible activities, too. So sometimes to pull out the planning activity and then how much of that is—

Chairman BEGICH. Yes, it may be difficult.

Mr. MILLER [continuing.] Actual mitigation will be difficult.

Chairman BEGICH. OK. If you can, for the Committee, get as much as that—as close as you can feel that, you can justify, this, we feel, is planning money for mitigation, because one of the things, as you know, in FEMA's list and also in our jurisdiction of the Committee, it's not only emergency preparedness, it's not only first responders, but mitigation and when you talk about a lot of what's happening here, besides the list that John gave, which is an impressive list in a negative way of all of our disasters, but good that we manage them, is how do we mitigate, especially as we are not looking at some of these issues with erosion and water temperature changes and other things. So if you could—that would be very helpful, I think.

On top of that, you mentioned insurance and I want to, again, for either one of you, David or Kenneth, whichever one feels comfortable answering this, I know of the 225 Tribes or so, we have 100, I think, are qualified or could go and get flood insurance. I know the FEMA administrator has said that they want to move Tribes on a higher priority in flood prone areas to really figure out how to engage them in this process.

Can you tell me what efforts FEMA is doing? I know the administrators talked about this, of getting Tribes who are in flood prone

areas that could qualify for that insurance to get them focused and potentially applying for that. I do not know if you have an answer to that, but that, to me, is one of the parts of this equation, because if they are not applying, there is something—and they are qualified and the administrator has made it a priority, there is a gap. Somehow there is something missing here, so—

Mr. MURPHY. Senator, I know we work with the State on this all the time, to try and reach out together so that we combine our efforts. There is no formalized plan. We try and analyze the communities and then reach out to them to work with them to see what it would take to get them to join into the National Flood Insurance Program and preferably and hopefully become part of the community rating system, which can then decrease policy costs and that kind of thing, but we work through the communities and especially in each one of our disasters, if we have the opportunity, we will talk to the communities to see if they're eligible and work with them.

Chairman BEGICH. You heard again from the last testimony, especially from the two that represented communities, this frustration and I am, as well, frustrated and that is what—who's the lead agency on this type of issue, extreme weather changes that are occurring? I will use Alaska to New York.

We just saw an incredible surge and I just saw one of the maps that if, and I forget the exact language that Thomas used, but if it had changed just a little bit more in the sense of the sea level rising so many meters, how deeper that would have gone into New York, Manhattan, everywhere else, who is—or if there is not, what should be the right group to really take charge of this, and I am going to lead to this, because I am going to jump over to the Corps in a second, as well as the State, because what I am sensing is everyone's doing kind of stuff and I think it is great, each piece, but there is this bigger picture of mitigation, because we don't want you all to keep repeating, like I will use the example, which I thought was a good one, which was Eagle, if I remember right.

By mitigating the future, by moving those homes, we prevented the homes you rebuilt from being flooded, which is exactly what we want to do and not just homes, but preventing communities—and we are in a situation where we know it is going to happen. Like in New York, it was like a storm that occurred that no one anticipated. We can tell by modeling what's happening by sea level rise in communities where we are just a little bit above sea level and it is going to happen. So who is that person or that agency, whoever? David.

Mr. MILLER. I think it is in two parts. If you look at climate and climate adaptation issues as we are going through it and the President's directive on that—

Chairman BEGICH. Right.

Mr. MILLER [continuing.] What we are finding is a lot of discussion on the data, how we look at the data and how it applies to existing programs and we are doing it within FEMA in our existing Stafford Act authorities and how we look at mitigation.

We are looking at information on how we inform versus how we regulate within those environments, how we analyze data for benefit-cost and bring that in, but probably the better answer to your

question; over this last year, we developed the mitigation framework that was recently released.

Within that framework, it talks about the Mitigation Federal Leadership Group. We have had our first meeting of that leadership group, but we have done something—

Chairman BEGICH. Who is the players in that? Do you remember right offhand?

Mr. MILLER. I can get you the complete list, but—

Chairman BEGICH. Can you get us the list for it?

Mr. MILLER. It virtually involves almost every Federal agency. So it is the Corps of Engineers. It's the Department of Transportation (DOT), Department of Defense (DOD). It is—

Chairman BEGICH. And what's the exact title they call it now?

Mr. MILLER. The Mitigation Federal Leadership Group.

Chairman BEGICH. OK.

Mr. MILLER. But beyond that, a little bit different than the other leadership groups for the other components in that Federal piece, we are looking to expand our leadership group to include local and State partners and that's the part we are working through right now.

So whether we enjoy the association that John was just the President of, the National Emergency Management Association—

Chairman BEGICH. Indiscernible—speaking simultaneously—

Mr. MILLER [continuing.] The International Association of Flood Plain Managers, we are looking for that participation in the Mit FLG, as well as the Federal agencies that come in and local government agencies and roles, as well. We really want that mitigation framework, as it calls for, to exemplify the whole community aspects of mitigation and the investment and that may even include some private and private nonprofit enterprises in there. As that matures, to answer your questions and the coordination indiscernible—speaking simultaneously—

Chairman BEGICH. You see that as the evolution?

Mr. MILLER. We will see that as the evolution.

Chairman BEGICH. On top of that, I would recommend, and this is always—and I know the President has a directive on tribal consultation, to make sure that Tribes are part of this equation, because—

Mr. MILLER. Yes.

Chairman BEGICH [continuing.] When you look at—it doesn't matter if it's just Alaska Tribes, but Lower 48 Tribes, water is land (sic) is the essence of being in the sense of their culture and their communities.

Mr. MILLER. Right.

Chairman BEGICH. And when there are floods or there are lack of resources now coming because of erosion or flood or other activities, they are unable to survive, so—

Mr. MILLER. Well—

Chairman BEGICH. When you list off, and I appreciate there were associations, the State agencies, but there is some good strong tribal organizations that I think would be very helpful in this mix of the next kind of layer.

Mr. MILLER. Yes, sir, and Tribes will be a big part of that. What we are working to understand now, as we go through this, plus the

changes in our relationship with tribal government, the ability to ask for declarations, those things that (indiscernible—speaking simultaneously)——

Chairman BEGICH. Right, which is a new part of the equation, which we really find as a great addition that——

Mr. MILLER [continuing.] Would be really (indiscernible—speaking simultaneously)——

Chairman BEGICH [continuing.] Now Tribes can request declaration of emergency, instead of waiting for the States—whatever their ability or their lack of ability, it is——

Unidentified SPEAKER. (Indiscernible—too far from microphone).

Chairman BEGICH. Yes, I know, the number is——

Mr. MILLER. Yes, there are some required consultations that we do and one of——

Chairman BEGICH. Yes.

Mr. MILLER [continuing.] The things that the staff is working to understand, especially with tribal governments, is the authorities they have. One tribal government is not the same as another.

Chairman BEGICH. Exactly.

Mr. MILLER. So land use authority is the ability to regulate, which——

Chairman BEGICH. Right.

Mr. MILLER [continuing.] Dovetails with the authority to (indiscernible—speaking simultaneously)——

Chairman BEGICH. Like our Tribes, we have some that have land use authority. Some do not.

Mr. MILLER. Right, but we will walk through all of those things and it is our goal to get representation from the Tribes within the Mitigation FLG and how we walk through those processes.

Chairman BEGICH. Yes. Let me, if I can, This is going to be kind of a question here, but moving over to the Corps at the same time, and that is, do you right now, if, for example, the Corps has a list of, two or three projects or I think you mentioned six communities you are doing some work with or so you have a list.

Do you take both of you guys' lists and say, "OK, we're about to do some preparedness planning in X community. You are doing some emergency planning or mitigation work or erosion work," does that happen or is that going to be the future of this group, because here's what I am going to use my simple way of looking at this.

If I am the community, I will use Anchorage here, for example, I got to FEMA. I want some planning money. I want some preparedness money. So I apply for that, but I also have erosion issues, some other situations. So I go over here to the Corps and I talk to them.

I am coordinating all the different things because I have to, but from the Federal agency standpoint, you are just getting these independent request, because I mean, my Corps request to you is not necessarily saying I am applying over here, even though they are different kinds of funding and different purposes or I am going to the Department of Housing and Urban Development (HUD) and saying I need some of this dollar (sic) for replacement housing.

Does that occur or is that something that we want to emphasize for this new group or is it something that we have to think of separately so we are not doing bits and pieces from each one? Does that

make sense? I don't even know, John, from your end, I know from the State, you are doing your piece, but I can tell you, from a local government, I'm just sitting here thinking, I do not ever recall us, when we went to the Corps, we did not go to FEMA to tell you what we were doing with the Corps. I knew what we were doing, but then you did not know. So give me some feedback and then I will flip over to (indiscernible—speaking simultaneously) —

Mr. MILLER. I will have the Colonel speak to this, too, because the Corps has done some very extensive work in this area. For our part in FEMA, there are some requirements that we have, especially in the mitigation and insurance programs and how we look at risk to coordinate with the Corps, also with the National Weather Service and a number of other Federal agencies, both in the assessment of the risk and the projects that we coordinate.

One of the things that we are active with the Corps with, and perhaps the Colonel can talk about and I was whispering to John or to Ken as we were sitting there, is the Silver Jackets Program.

Chairman BEGICH. Right.

Mr. MILLER. So you get an inner-agency cooperation and consolidation on top of that, but you are right, the further coordination and to move this along, even to a greater extent, will happen under organizational structures like the Mit FLG, because it is not just the Corps of Engineers and it also involves the Department of Agriculture (USDA), Department of Transportation and others that play a role in mitigation projects and how we thread those together.

Chairman BEGICH. I will give you one—as I flip over to the Corps here, I will give you an example. When I was Mayor, the first 3 months of being Mayor of Anchorage, I remember, we had State roads. We have city roads. We had some local jurisdiction up in the hillside. So everyone was applying for their own thing. We had our road list for our Metropolitan Planning Area and then we had our Capital Grant money, different criteria of determining what's a priority and honestly, I stopped it all and I said, "Here's what we are going to do; we do not care who the roads are owned by. We are going to prioritize them at the same prioritization of what's a risk," and we created, I think it was 10 points of prioritization, safety, so forth, and then we said, "Wherever they fall, we do not care if they are State, Federal, local or local road district, wherever they fall, then we start down the list," and we had a lot of, resistance from—and I don't know if Thomas is still here, but I know from the Corps, I get it, if you are an engineer, and I do not know if you are an engineer by trade, but as an engineer, they are on a straight line, do not deviate. We are on a plan, do not start moving it around, and I remember we had lots of projects we had to say, "No, they are not a priority anymore."

The end result was, to be very frank with you, in this city, we built more roads in 5 years than we built in 20, because we did not base it on jurisdiction. We based it on a mutual agreement of what's a priority and then attacked the problem with all resources, State, Federal and local and the net result was for—the people who live here know how many roads were constructed very quickly.

So in this situation, my worry is we have a list of 26 or so pretty risky villages, in the sense of what could happen to them with a

smaller list in there, a subset, and all hands on deck should be for those. So maybe you could additionally answer from that—I just want to give that example of where my concern's coming from based on my experience dealing with multiple layers on road construction issues.

Col. LESTOCHI. I think to your first point, sir, about lead agency, I really think it depends on the nature, the mission that we are talking about. If it is a coastal erosion mitigation effort, then clearly, that's the Corps. If it is, housing, it is HUD. It changes from mission to mission.

Chairman BEGICH. But let me pause you on that. If you are now dealing with erosion and there are houses falling into the water, someone has to lead this overall effort, because you—

Col. LESTOCHI. Yes.

Chairman BEGICH [continuing.] You could say, "I'm going to solve the erosion problem," and then HUD comes along and says, "Well, where are we going to build those houses? You just took all the land we were going to put it in." So that's what I'm thinking of, is what's that body, and maybe it is this new group that says, "This is how it has to be done," and then from there, there may have to be a regional approach to these issues because mitigation is so different than emergency response, because emergency response is immediate. Mitigation is prolonged emergency. When we look at erosion, we look at water depths changing, I will use tsunamis also, the debris that's coming over, these are prolonged disasters that are kind of creeping up. We can actually map them and we know they are coming. It is just the question of, what do we do?

So I do not want to totally disagree with you, but I am concerned that that's the problem, because if you are taking away erosion, right, and we want you to do that, to solve that problem, but now the houses are gone, we have not solved a community problem and that the right place to do that erosion (indiscernible)? Maybe it is not. Maybe it is saying we should go somewhere else and relocate the village because the village decides they need to move to higher land. I do not know. Go ahead, I did not mean to interrupt you there, I just—

Col. LESTOCHI. No, that's perfectly all right. I do not have the answer which Federal agency—I'm certainly not going to sign up my agency to be the—

Chairman BEGICH. I am going to sign you up right now.

Col. LESTOCHI [continuing.] Federal agency for all things, but—

Chairman BEGICH. Do not worry, Colonel, I will just pass onto the folks back in D.C. you agreed. They will thank you for testifying.

Col. LESTOCHI. But I do know we work closely with our agency partners on these matters. Take, for example, Kivalina—

Chairman BEGICH. Yes.

Col. LESTOCHI. There, we built some shoreline protection, at least we got it partially completed and there was some discussion about relocation of the community, potentially, and so we do talk to other agencies about what their plans are and we provide them information from the engineering perspective, advise them on—

Chairman BEGICH. Do you think that idea would be helpful?

Col. LESTOCHI. I think there's merit to it and just thinking along the lines of the FEMA model that we are using now, so we respond to a disaster in a place like Galena and we work together as an agency—

Chairman BEGICH. Right.

Col. LESTOCHI [continuing.] To support the State.

Chairman BEGICH. Right.

Col. LESTOCHI. And now, we are getting to transitioning to a phase where we are looking at the long-term recovery of the community.

Chairman BEGICH. Right.

Col. LESTOCHI. And as we start down that road, there's yet another committee, if you will, of Federal agencies that—

Chairman BEGICH. (Indiscernible—speaking simultaneously) efforts.

Col. LESTOCHI [continuing.] Are coordinating the efforts with the State to come up with that long-term plan. Perhaps a model like that could be used for mitigation.

Chairman BEGICH. In a broader sense for mitigation.

Col. LESTOCHI. Yes, sir.

Chairman BEGICH. Let me ask you, and I am going to jump to John here real quick, because I know my time's running here, but under 116, the match that's required, the Corps really does—I mean, does the language prohibit—well, I think what the local communities were saying is they want the State to pay for it all. I get that, but the language does not prohibit the State from paying for it or does it?

Col. LESTOCHI. It does not prohibit the State.

Chairman BEGICH. OK, because the Corps does not care where that match comes from, as long as there's a match, is that a fair statement?

Col. LESTOCHI. Yes, sir.

Chairman BEGICH. John, do not worry, I will not say to the Governor you committed to 100 percent pay for it, but I have an idea I will discuss with you later, but the cost-benefit ratio, this has always been a struggle. Is that fair to say to the Corps, in Alaska's situation?

Col. LESTOCHI. Absolutely, I mean, you cited the example of the small remote subsistence harbors.

Chairman BEGICH. Right.

Col. LESTOCHI. One of those harbors competing on a benefit-cost ration using our rules with, the ports on the east coast, it will (in-discernible—speaking simultaneously) never work.

Chairman BEGICH. We would never win.

Col. LESTOCHI. So there were pots created—

Chairman BEGICH. Right, to help solve that problem.

Col. LESTOCHI [continuing.] To help solve that problem.

Chairman BEGICH. And from a Corps perspective, and I do not want to put words in your mouth, so if you do not want to answer this or disagree, feel free to, that is, I can only imagine, I mean, my father-in-law passed away about 2 years ago, he was a Corps, as you know, he was a Colonel in the Corps and I know these things frustrated him because he wanted to do the mission, but because of our rules, and I say "ours," meaning the Federal Govern-

ment legislatively, we set the rules and then you have to operate by them.

There must be some level of frustration when you see these—it is just—when you see the project makes so much sense to go do, but you are restricted and the village can not afford it and here you are looking at a project and you say, “Well, wish we could, but can not, because the rules are what they are.” Is that a fair statement?

You do not have to answer if you do not want to. I do not want to put you in a box, but I used to know from the experience and discussions I had with people who work in the Corps, it is the most frustrating thing I hear. They know this is something they could go in and attack and go after. They see the mission, but they are just frustrated that they can not do it because the rules are what they are and they have limited funds.

Col. LESTOCHI. We are required to operate within the limits of our authorities.

Chairman BEGICH. Right, I know. It is more of a rhetorical question, I guess, sorry about that, but I know the frustration. Let me close out with John, if I can? John, I asked the question earlier and I do not know if you could have answered it either, but on the—the Subcabinet on Climate, I do not know if it is still active, and then there’s underneath that, the working group or the subworking group, I do not know what it was called. Tell me, are either one of those active still and what’s their activity or—

Mr. MADDEN. Well (indiscernible—speaking simultaneously)—

Chairman BEGICH [continuing.] If you don’t have an answer, don’t—

Mr. MADDEN. Yes, sir, for a little bit of background, concurrent with the very powerful storm that hit Kivalina, that threatened it in September 2007—

Chairman BEGICH. Yes.

Mr. MADDEN [continuing.] Governor Palin created the Subcabinet on Climate Change led by—

Chairman BEGICH. Correct.

Mr. MADDEN [continuing.] The Commissioner for the Department of Environmental Conservation.

Chairman BEGICH. Yes, I remember this here.

Mr. MADDEN. The first action by that Subcabinet was to create two processes. One was a citizen engagement looking at infrastructure, invasive species, cultural, many of those public participation. The second part of it was the formation of the Immediate Action Work Group.

Chairman BEGICH. Right.

Mr. MADDEN. And I was a member of that, as well as the Corps of Engineers, State Department of Transportation, NOAA.

Chairman BEGICH. A variety of agencies.

Mr. MADDEN. Several, and she was right that we were charged with being the people with authorities and capabilities, but to look at the immediacy, what can be done, what must be done within the next 18 to 24 months as the longer public examination process took and the policy process (sic).

Within that, the first thing we did was look at all of these studies, all the reports and determine the ones that were really greatest at risk that needed immediate action and that turned out to be

Kivalina, Shishmaref, Shaktoolik, Unalakleet, Newtok,  
Koyukuk—

Chairman BEGICH. Right, Newtok, right.

Mr. MADDEN. And for those, some of them resulted in actual construction projects.

Chairman BEGICH. (Indiscernible—speaking simultaneously) right.

Mr. MADDEN. We appropriated within just a few months—

Chairman BEGICH. Well, like Newtok is moving, correct?

Mr. MADDEN. And the primary one was on Kivalina, where the State committed that with our own appropriations to do a very—

Chairman BEGICH. A (indiscernible—speaking simultaneously)—

Mr. MADDEN [continuing.] Advanced shoreline stabilization for the southern part of the island and which the Corps then, through their authorities, we linked up.

Chairman BEGICH. Got you.

Mr. MADDEN. And that has held. For each and all of the other communities and many others beyond, we did a comprehensive suite of plans, full-blown hazard mitigation plans, full emergency operations and response and—

Chairman BEGICH. Preparedness.

Mr. MADDEN. [continuing.] For each one of those, determined a safe haven so they can have an evacuation plan, that has continued to a great extent with hundreds of communities around the State and particularly on the Climate Change Subcabinet does not meet as such because we strove to put it into the mainstream.

Chairman BEGICH. OK.

Mr. MADDEN. To have climate and standards and the other things put into the mainline budget.

Chairman BEGICH. Can I ask you this, John, and then again, I apologize, our clock is ticked here, I have some other questions I will submit for the record, that you can prepare from your office that says, “Here’s what we did in that Immediate Action Working Group and then here are kind of the actions we took?” In other words, here’s what we said was the situation, here’s what we did and then, here’s what’s pending or not necessary or whatever the categories might be. Is that something you could prepare for the Committee?

Mr. MADDEN. We can, sir. Much of that was captured in the archives and it is available online at climatechange.alaska.gov.

Chairman BEGICH. OK.

Mr. MADDEN. So all of the meetings and all of the reports are there.

Chairman BEGICH. All right.

Mr. MADDEN. I will provide a summary of those things that are—

Chairman BEGICH. That would be great.

Mr. MADDEN [continuing.] Still being continued.

Chairman BEGICH. OK, that would be great. Thank you very much, John. Let me say, again, to the panel, thank you very much. I have some additional questions I will put for the record. I know other Members of the Committee may also. Thank you for being here. Thank you for helping. One of the things that is clear, and

again, with Alaska, and I think again, a unique opportunity, if we do this right and think about mitigation, and I always say this on almost anything we do, that if we can do it here in Alaska, we can do it anywhere in the country, because of our conditions, logistics, the cost, the uniqueness of the State.

If we can figure out how to plan and coordinate in a much stronger way when it comes to mitigating for future things that we know—it may be erosion, water depths changing, sea level changing, that the net result is we could probably do a lot better planning and utilization of our Federal resources.

The purpose of this hearing today was, we start laying these issues on the table, especially in rural Alaska, where you can just map it and see what's going to happen. It is not a question of if it is going to happen, is it 10 years? Is it 2 years? Is it 50 years? Being at Lonely Point, they were taking out an old hazard site, as you know, Tom, they are moving as quick as they can because literally, it is slowly being peeled away and that area's going to be a big chunk of it is going to be gone over time and we have some old military operations there that have to be moved as quickly as possible, but these are the kinds of things we have to think about when we know the disaster is there and the question is; how do we coordinate our Federal agencies?

How do we also look at the pieces to understand that mitigation is now in a lot of ways, it is a much more cost effective way to deal with disaster than waiting for something to happen and pick the pieces up afterward. It just makes so much sense. The problem is we have to think long-term and it is hard in the world we live in today to think beyond what's happening at the moment and part of this Committee's job, and as Chair of this Committee, is to think about the future, as well as dealing with the immediate response issues and I can not wait for the earthquake one. We had a little preempt here earlier, but maybe next interference with recording long-range planning on building codes, if also that was part of the long-term thinking there. Thank you. This Committee stands adjourned with how many days, 14 days for additional questions by other committee Members. At this time, the Committee is adjourned. Thank you very much.

[Whereupon, at 3:39 p.m., the Subcommittee was adjourned.]

## A P P E N D I X

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Subcommittee on Emergency Management,  
Intergovernmental Relations and the District of Columbia

Hearing on:  
“Extreme Weather in Alaska: State and Federal Response to Imminent Disasters in the Arctic”

September 13, 203  
10:00 am  
909 West 9<sup>th</sup> Avenue  
Anchorage, Alaska 99501

Testimony by:  
Vivian Korthuis, Project Development Director  
Association of Village Council Presidents  
Box 219  
Bethel, Alaska 99559

Mr. Chairman and Committee Members;

My name is Vivian Korthuis, Project Development Director for the Association of Village Council Presidents (AVCP) in Bethel, Alaska. AVCP is the regional Tribal non-profit corporation for the fifty-six Tribes located along the Yukon River and the Kuskokwim River and Bering Sea Coast in Western Alaska.

Thank you for inviting AVCP today to address you regarding the Tribal issues related to Disasters in the Arctic.

The Arctic is changing, which means our homeland is changing. The Elders in our region are observing these changes. Our communities are being directly impacted. We have seen floods, extreme weather, rivers and streams changing course, and lakes drying up on the YK Delta. The impact these events have had on our villages include changes to our traditional hunting and fishing areas to the relocation of whole communities.

Over time, we have established community response teams which include the local health aides, city and tribal police, schools, tribal administrators, and local community leaders who have taken it upon themselves to plan and implement local disaster responses.

Many of our villages do not have adequate infrastructure that is required to take care of our people in crisis.

We have seen this recently with the example of the flood in Crooked Creek. In this situation, we witnessed the resilience of our people and our communities. As a regional Native Tribal Consortium, we must address every disaster in our region with the resources available to us. We rely on the Tribal Administrator to take the lead in planning for and responding to community disasters which may occur at any time of the year.

Overall, our region is truly not prepared for a large scale weather or industrial related disaster occurring either along the Yukon or Kuskokwim River or along the Bering Sea Coast. Our 56 Tribes and communities will take the lead in anything that occurs within the village. But, our villages will need help.

The help our villages need comes in many ways including appropriate planning, preparing for and responding to, and mitigating long lasting environmental impacts from erosion, floods, and extreme weather. The best way to do this is at the community level. We know what works in our villages and how best to prepare for either an unexpected crisis or a planned relocation of a community.

The region must improve the capacity to be disaster resilient. We recommend that every community have an Emergency Plan. Some villages are not prepared and some villages are. The key players in the community involve the local Tribal Police or the Village Public Safety Officer as well as the City Managers and Tribal Administrators. The Health Aides also play a key role. Funding must be made available for community planning.

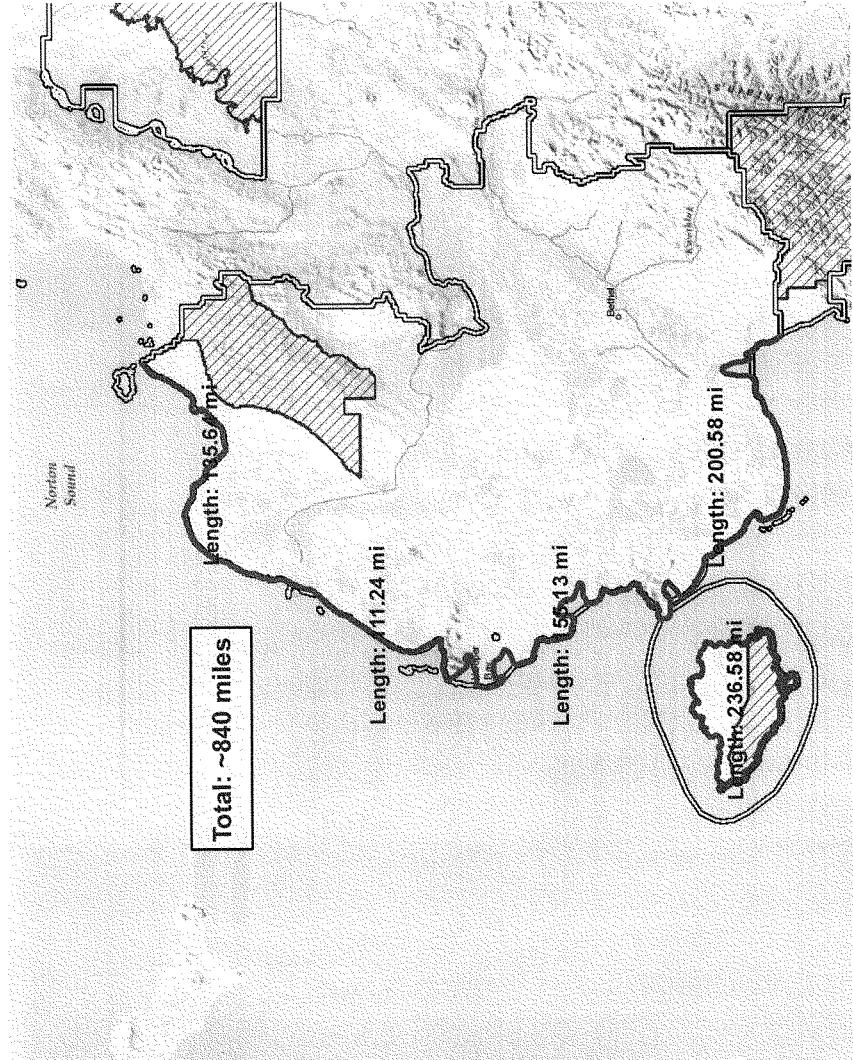
The region also needs a centralized response and recovery plan. AVCP has been working on this for the past several years. We propose to develop the Western Alaska Emergency Response Center which will aid in coordination of all emergency responses in the region. Funding must be made available for this project. In addition, we are advocating for the Nunivak Deep Sea Port Response Center as well as the Hooper Bay Airport Expansion to mitigate any potential environmental crisis in the Bering Sea.

We will continue to see erosion on our rivers and Bering Sea Coast, floods that happen every spring and fall, and the effects of global warming. This issue is coming up more and more. We are not prepared for any off-shore shipping or industrial disaster that may occur on the Bering Sea Coast. The closest response center is the Coast Guard Base in Kodiak, which is hours and depending on weather-days away from our villages. This protection from disasters in our region, from the Federal Government, is essentially absent.

The best way we know how to deal with disasters in the Arctic – our homeland - is at the community level and we are requesting assistance from both the State and Federal Governments to be completely prepared and ready to respond to any disaster along the Yukon River and Kuskokwim River and Bering Sea Coast.

Thank you.

Attachment: "US Fish & Wildlife Service: Yukon Delta NWR Coastal Miles"



**Coastal Inundation and its Impacts on Ecology and Human Communities in the Yukon-Kuskokwim Delta, West Alaska**

By

Tom Ravens

Professor, Dept. of Civil Engineering

University of Alaska Anchorage

[tmravens@uaa.alaska.edu](mailto:tmravens@uaa.alaska.edu)

***Introduction***

The Yukon-Kuskokwim Delta is home to 40,000 rural Alaskans – most of whom are Native Alaskans. It is also home to the Yukon Wildlife Refuge which is a world-class site for nesting birds including the endangered Spectacle Eider. However, because of the Delta's low elevation (2 m above sea level), the Delta's residents and its ecology are vulnerable to storm surges (Figure 1), and the vulnerability will grow with increasing sea levels. In this paper, we report on research to study storm surge-induced inundation under the current climate and to project inundation under a future climate with selected sea level rise scenarios. In addition, we determine the likely change in the Yukon Delta ecology due to storm surges enhanced by sea level rise.

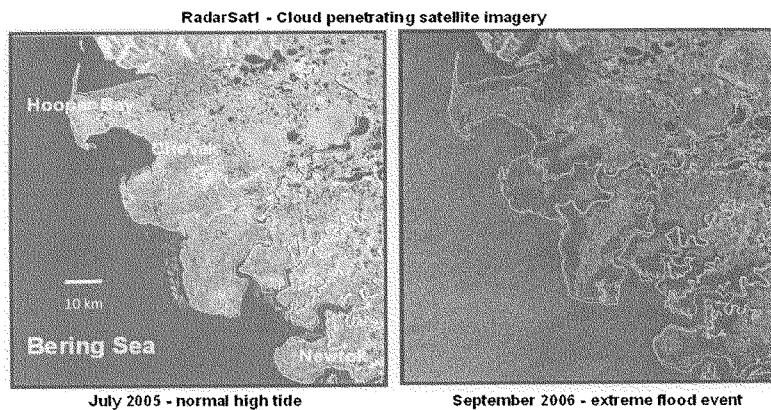


Figure 1. RadarSat1 view of the Delta during a normal high tide and during a storm surge event.

### ***Methodology and Results***

Several tasks were undertaken in order to meet the project's goals:

- Develop and validate a storm surge model
- Identify a number of representative storms from the past 40 years
- Model these storms and their inundation under present climate conditions
- Re-model these storms assuming one or more sea level rise scenarios
- Compute an inundation index from each model run
- Compute an annual inundation index based on inundation indices from selected storms
- Establish the relationship between annual index and ecological parameters (e.g., vegetation type) under present climate
- Infer changes in ecological parameters (e.g., vegetation type) under a future climate based on projected changes in inundation index

#### *Storm surge modeling*

Storm surge modeling was achieved by combining output from an existing course-grid model and by developing a fine-grid model which focused on the Yukon Kuskokwim Delta. The course-grid model was developed by the US Army Corps of Engineers using ADCIRC software and it covered the Bering and Chukchi Seas (and beyond, Figure 2a). The fine-grid model was developed using Delft3D software and it was centered on the mouth of the Kashunuk River in the heart of the Yukon Kuskokwim Delta (Figure 2b). The fine-grid model was "forced" on its ocean boundary by water level data provided by the course-grid model.

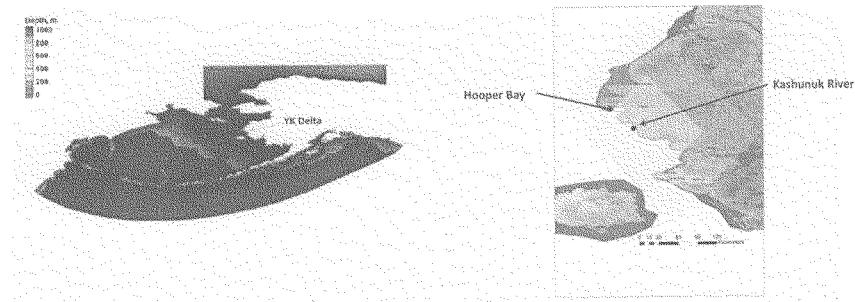


Figure 2. Domain of the (a) course-grid and (b) fine-grid models.

The storm surge model is being validated based on its calculation of water level at the coast as well as extent of inundation. Figure 3 (below) shows a plot comparing model-calculated and measured water level at the coast during a small ("one-year") storm during 2009. The data shows that the model does a reasonable job of representing nearshore water level during a small storm surge event.

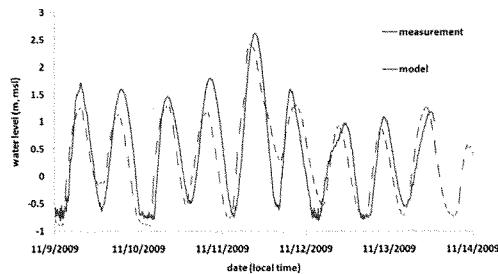


Figure 3. Plot of measured and calculated water level at the coast during a one-year storm in November 2009.

#### *Identification of representative storms from the past 40 years*

We identified 10 historic storms to study in this project (Figure 4). These storms had previously been studied by the US Army Corps of Engineers using their ADCIRC model (Chapman et al.

Storm Date	Max surge <sup>a</sup> (ft. MLLW Hooper Bay)	Return period (yr)	Min Surface Pressure <sup>b</sup> (mb)	Max wind <sup>c</sup> (mph direction)	Max surge Raynumuk <sup>d</sup> (ft. MLLW)	Estimated return period (yr, Kashunuk River)
1 Nov 74	18.57	50	978.6	45.6 SSW		
2 Oct 92	13.70	10-15	981.6	51.2 SSE		
3 Oct 99	11.60	10	991.3	49.7 SE		
4 Oct 96	10.78	5-10	1008.4	39.6 S		
5 Nov 96	11.60	10	975.0	49.7 SE		
6 Oct 04	11.83	15	975.7	49.4 SW	9.6	9
7 Sept 05					11.0	15
8 Nov 06						
9 Nov 09					7.8	1
1 Nov 11						
0						

<sup>a</sup>Chapman et al. Storm Induced Water Level Prediction Study for the Western Coast of Alaska, USACE. Reported surge is for Hooper Bay. It does not include tides.  
<sup>b</sup>Calculated using ADCIRC (course grid) and Delft3D (fine grid) models. Reported surge is for inner Kashunuk River. It does not include tides.

Figure 4. Data on 10 historic storms selected for analysis.

2004). Column 3 above provides the calculated surge height at Hooper Bay about 50 km northeast of the Kashunuk River mouth (Figure 2). The Kashunuk River area is the focus of the current study. Column 4 provides approximate return period for each storm based on extremal analysis conducted by Chapman *et al.* for the Hooper Bay site. For our study, focusing on the mouth of the Kashunuk River, we selected three storms (storms 6, 7, and 9 in Figure 4). The 2004, 2005, and 2009 storms at the Kashunuk River have provisionally been assigned return periods of 5, 15, and 1 years based on the calculated surge at the Kashunuk River mouth and based on the relationship between surge height and return period seen at the Hooper Bay site.

*Computation of the inundation index for individual storms and computation of the annual inundation index*

An inundation index was computed to account for the frequency and intensity of inundation on the Delta during a given storm surge event. The inundation index is a spatially variable index and is formulated as the time-integral of the water depth on the Delta during the storm event. The inundation index for the one-year storm (2009 storm) is shown in Figure 5 below. The index has units of m-days and it is maximal on the coast. The inundation index for the 15 year storm (i.e., a storm that is expected to return once every 15 years on average) is shown in Figure 6 (below). The inundation index for the 15 year storm is, as expected, much higher than that of the 1 year storm. The inundation index also shows the spatial extent of storm's inundation. Again, not surprisingly, the 15 year storm inundates a much larger area than the 1 year storm.

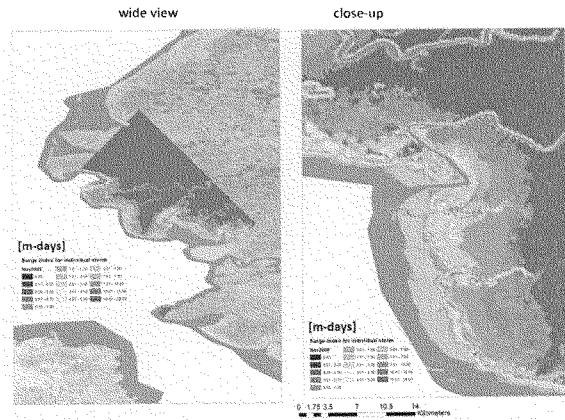


Figure 5. Computed Inundation Index (wide view and close up) for a one-year storm (i.e., 2009 storm).

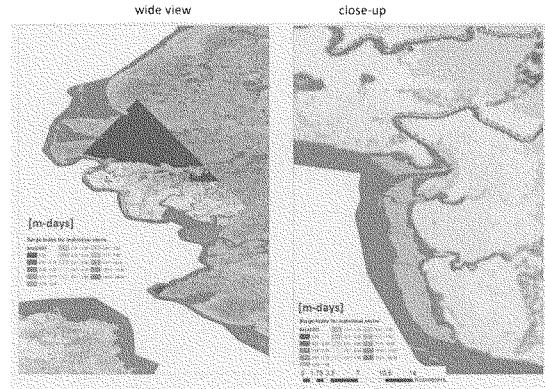


Figure 6. Computed Inundation Index (wide view and close up) for a 15-year storm.

An estimate of the annual inundation index was calculated based on a weighted average of the inundation indices for the 1, 5, and 15 year storms (Figure 7a). The annual index is a measure of the expected amount of inundation in any given year. Examination of the annual inundation index alongside a vegetation map (Figure 7b) shows a remarkable correspondence between index and vegetation type. For example, brackish wet sedge meadow is clearly found where the annual inundation index is in the range of 1 to 2 m-days/yr.

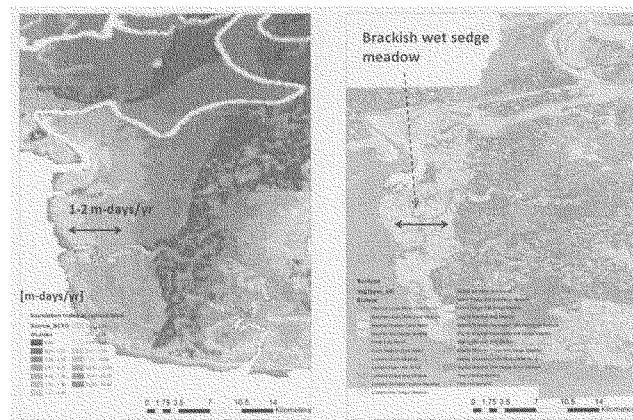


Figure 7. (a) annual inundation index and (b) vegetation map.

*Projected changes in inundation index and vegetation type in a future with a 40 cm sea level rise*

Assuming an increase in the baseline sea level of 40 cm, the individual storms were re-modeled and the inundation indices for the individual storms were re-calculated. Further, based on the individual storm indices, the annual inundation index for the 40 cm sea level rise scenario was recomputed. Examination of the annual inundation index for the present climate and for the future climate with the 40 cm sea level rise (Figure 8) shows that the region with the 1-2 m-days/yr annual inundation index shifts 7 km inland in the future scenario. Assuming that this index level continues to correspond to brackish wet sedge meadow, we can infer that this vegetation type would also shift 7 km inland.

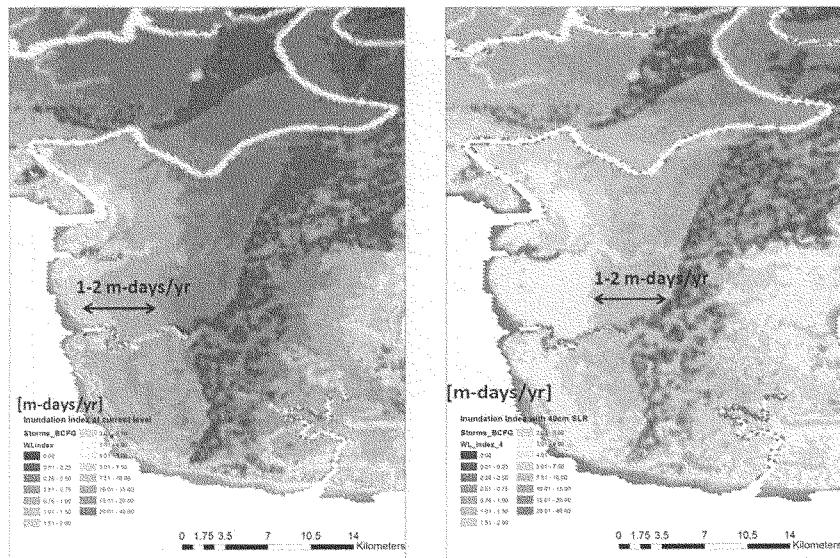


Figure 8 (a) annual inundation index for present climate and (b) annual inundation index for a future climate with a 40 cm sea level rise.

### ***Conclusions***

The above calculations indicate that the frequency and intensity of inundation on the Delta – quantified by the inundation index - are very sensitive to sea level changes. A 40 cm sea level rise would lead to large changes in the annual inundation index. In particular, the simulations show that a 40 cm sea level rise would lead to a 7 km inland shift in the 1-2 m-days/yr index band. Assuming vegetation types continued to correspond to inundation exposure, we could expect that brackish wet sedge meadow which corresponds to the 1-2 m-days/yr index range would similarly shift inland 7 km.

Although we have not yet explicitly addressed these issues in our research, we expect other large scale changes in ecology due to sea level rise in this area. First, river salinity will certainly increase significantly due to sea level rise. Among other things, this will lead to changes in the spatial distribution in fish. Fresh water species such as white fish will migrate inland behind the encroaching salinity. Also, the Delta's myriad ponds which support many of the Delta's water fowl, particularly in the juvenile life stage, will become more saline due to the more frequent and intense inundation. The increase in salinity of these ponds will degrade their ability to provide quality for water fowl.

In addition to these ecological impacts, there will be major impacts to human communities due to sea level rise. First, there will be a rise in coastal erosion rates due to the higher water levels. Higher water levels allow the aggressive action of waves to propagate further inland. Coastal erosion will be compounded by the reduction of sea ice which will enable storm waves to reach the shore. Coastal erosion rates will also be exacerbated by permafrost thaw along the coast. In many areas (e.g., on the north coast of Alaska), permafrost is the only thing holding sediments in place. Second, the water resources systems of coastal communities will be threatened. Communities which rely on wells or surface water for drinking water – which is all of the coastal communities – will be threatened. Groundwater and surface water sources for drinking water will be degraded as they become more saline. Expensive rehabilitation of drinking water infrastructure will be necessary. Similarly, waste water treatment systems will be affected. In many instances, these waste water treatment systems consist of sewerage ponds that are flushed periodically. Large storm surges could disperse waste and toxins creating a public health hazard.

*Recommendations*

The tools that have been developed in this and other research projects would provide a solid basis for comprehensive hazard assessment. However, we are not aware of a comprehensive approach toward assessing hazards in coastal Alaska.

TESTIMONY OF  
MELANIE BAHNKE, PRESIDENT OF KAWERAK, INC.  
BEFORE THE U.S. SENATE SUBCOMMITTEE ON EMERGENCY MANAGEMENT,  
INTERGOVERNMENTAL RELATIONS, AND THE DISTRICT OF COLUMBIA

SEPTEMBER 13, 2013

Thank you Senator Begich, Senator Paul, and members of the Senate Subcommittee - for the opportunity to testify. I am Akighqukaaghaq, Melanie Bahnke and I am President of Kawerak, Inc. Kawerak is the regional Native non-profit corporation and tribal consortium of the Bering Strait Region of northwestern Alaska, where there are 20 federally recognized tribes. I also serve on the Alaska Federation of Natives (AFN) Board of Directors, and am co-chair of the AFN committee of non-profit CEO's, the Council for Advancement of Alaska Natives. I hold a master's degree in Rural Development.

Thank you for giving me this opportunity to present our challenges and recommendations. I am pleased that Congress and the Administration is focusing attention on tribal communities and their erosion, disaster, and community relocation issues.

**Introduction:** The Bering Strait Region of Alaska is about the size of West Virginia. The population of the region is over 9000; 75% are Alaska Native. The region is not connected to the rest of Alaska by roads, and 17 of the 20 villages are not accessible by road at all from the hub community of Nome, except for in the summer. Primary access is by air service, with small commuter planes and dirt runways in most of the villages. The ocean freezes over the winter and barge services are cut off; air transportation for freight is thus higher in the winter. Unemployment is high, jobs are scarce, and poverty is significant. 2012 fuel prices averaged \$6.19/gallon for heating oil and \$6.40/gallon for gasoline. All of our tribes have identified the need for ports/harbors/barge landings in their Long Range Transportation Plans.

Most rural communities in Alaska face community development challenges (infrastructure development, healthcare, transportation, communications, energy, education, local services, economy, jobs, public safety, and emergency services). All of the communities in the Bering Strait Region are located on the sea coast or shores of rivers. Until compulsory education was imposed upon our people, Alaska Natives in our region often followed the game and established temporary settlements based on the hunting and gathering seasons. With the influx of the missionaries, who were paid by the federal government, permanent settlements were established, and in the 1930's the Bureau of Indian Affairs forced some residents to relocate to the coast to save on mobilization costs.

**Climate Change and Erosion Issues:** Kawerak has a Natural Resources division, which plays a role in compiling Traditional Ecological Knowledge. Through our Social Science program, we have researchers who have collected data from hundreds of hunters and gatherers in our region who have lived their whole lives observing the environment and have witnessed many changes, such as a rise in sea level, later freeze up and thinner ice, permafrost melting, changes in weather patterns, and shorter winters, more rain, and hotter summers. Absent the physical protections from severe fall storms, several of our communities are experiencing rapid erosion of their shorelines, and may be better off being relocated.

**Disaster Issues:** The Bering Strait Region has five villages in imminent danger posing threat to life and property. The 2011 Bering Sea Winter Storm was declared a disaster by President Obama. The storm threatened coastal communities because there are no current revetments/seawalls/protection in our villages except for three. Flooding occurred, power was cut off, and communication to some of the villages was lost for several hours.

Exacerbating the natural disasters, the threat of manmade disasters looms over our region as a threat to our natural resources and people as diminishing sea ice has resulted in increased shipping traffic through the Northern Sea Route (NSR) and the Northwest Arctic Passage (NWAP). The narrow Bering Strait Region between Alaska and Russia is a chokepoint for this traffic. In 2012 there were an estimated 480 transits through the Bering Strait. For travel between Europe and Asia, going through the NSR and NWAP is shorter compared to traveling through the Panama Canal. This number may not seem high, but when you consider that the Bering Strait is only 50 miles wide at its narrowest points, and the traffic is occurring in a condensed amount of time, there are risks for disasters. The U.S. has not ratified the United Nations Convention on the Law of the Sea (UNCLOS), which permits member nations to claim an exclusive economic zone (EEZ) out to 200 nautical miles from shore, with an exclusive sovereign right to explore, manage, and develop all living and non-living resources within the EEZ. UNCLOS also establishes general obligations for safeguarding the marine environment and creates a legal regime for controlling mineral resources exploration in deep seabed areas beyond national jurisdiction.

**Governmental Coordination and Resource Allocation Issues:** Our federal, state, local and tribal governments are ill-prepared for both the natural disasters that we have already experienced and the potential future natural and man-made disasters in our region. Not only is there a lack of a lead agency spearheading comprehensive efforts to prevent, mitigate, and respond to disasters, there is a lack of coordination among the agencies that are tasked with carrying out the splintered components of these efforts. Resources to carry out projects in our region have been very limited; often funding opportunities require a cost-benefit analysis that factors in population or require a local cost-share that is prohibitive.

Currently, the Alaska Native Tribal Health Consortium has two staff assisting tribal communities with Emergency Operations Plans (EOP), and the State of Alaska works with local municipalities to assist them as well. However, funding is limited. Establishing an EOP requires professional services, and there are some rural communities who do not even have a municipal government.

The Immediate Action Work Group began as an ad-hoc group, and resulted in a US Corps of Engineers 2009 Recommendation Report, which then led to the creation of the Alaska Governor's Executive Subcabinet on Climate Change. The goal was to address known threats to communities caused by coastal erosion, thawing permafrost, flooding and fires. The IAWG was composed of high-level staff with authority for resource allocation from both the State and Federal agencies and was co-chaired by the USCOE and the State of Alaska's Department of Community and Regional Affairs.

The working group was effective because key decision-makers from the various federal, state, and local governments participated and the early stages of projects identified as priorities were 100% federally funded from the Corps of Engineers under what was Section 117 of the Energy and Water Development Act of 2005. The next stages, still ongoing, required a local match of 35% to

the Corps 65% which was funded by the State with the recommendations coming from the IAWG. In 2009 Congress repealed Section 117, halting much needed flooding and erosion projects. In 2010 Congress enacted Section 116, which requires projects to be cost shared between the federal government and local sponsors at 65% federal funds and 35% local funds. As an example, for one of our community's project – the community was required to provide a \$6-\$8M match for a USCOE revetment project. The project was not completed. Our local communities simply do not have the resources to cost-share for projects at the 35% rate.

Even when funding has been made available, we have experienced challenges in implementing practical solutions due to restrictive funding regulations. For example, one of our communities received funding from the U.S. Department of Agriculture's Natural Resources Conservation Services to control erosion, but the funding regulations would not allow a project to be above the contour of the adjacent land, so the City government installed gabions to prevent more water damage to buildings that had been flooded. The gabions later faltered. In another community that was flooded, Kawerak was able to access funds following the disaster, but the funding source, the Emergency Relief for Federally Owned Roads (ERFO) restricted use of funds only to roads, not to public or private property. Splintering funding sources together to address the comprehensive impacts of a community disaster is challenging to say the least.

**Recommendations:**

- **Reinstate the Immediate Action Work Group.** This model is an exemplary model of coordinating State, Federal, and local leaders to prioritize projects, coordinate resources, and implement projects. Allocate resources to support the coordination of efforts.
- **Fund the Priorities Already Identified.** Various inter-agency reports have sprung out of the increased focus on the arctic, including a USCG strategy document, a US NOAA Arctic Mapping plan, a US Committee on Marine Transportation System priority document, U.S. National Science and Technology Council arctic research plan, and a National Strategy for the Arctic produced by the White House this past May. Resources need to be allocated toward these multi-agency priorities to close the gaps.
- **Implement the USCOE's 2009 Recommendations Report.** If a cost-share structure is necessary, cost-sharing should be shared between the federal government and the state government, not local communities who have practically no tax base to afford a cost share.
- **Eliminate Red Tape.** Identify and eliminate regulations and policies that are prohibitive to access of funds. A national call to tribes and rural communities to identify these barriers should be undertaken, and agencies should work together to eliminate the red tape. This should not be a lengthy process. For Alaska, the regional non-profits could coordinate obtaining this information.
- **Identify and consolidate disaster funding.** The current splintering of funding sources for disasters is complicated and cumbersome. Disaster prevention, planning, mitigation and response for communities should be viewed holistically and the resources required to fulfill these functions should be consolidated and provide flexibility.

- **Institute emergency preparedness support.** Each community and region should have an Emergency Operations Plan in place, as well as the equipment and resources necessary to carry out their plan should disaster strike. Given the recent development where federally recognized tribes are now able to request disaster declarations directly to the President, bypassing their state governments, there are several requirements that tribes have to have in place before submitting a request that will be considered. Simply put, it costs money to even ask for money. Technical assistance and training needs to be made available through the federal and state departments of Homeland Security (in a coordinated manner) and through FEMA.
- **Increase U.S.C.G. presence in the Arctic.** Up until just a few years ago, the USCG had a station at Port Clarence in the Bering Strait Region. This station has been shuttered and our region's nearest station is now Kodiak, much too far away. Given the recent increase in ocean vessel traffic through the Bering Strait, increased presence is needed. A permanent USCG base in the Bering Strait, the chokepoint between Russia and Alaska, is needed.
- **Support development of regional Emergency Operations Plans.** Storms and disasters do not typically only affect one community – in most cases an entire region is affected. Regional plans are needed and the regional non-profits could provide a mechanism to accomplish this, especially in areas where there are no organized boroughs.
- **Establish a model for practical collaboration with rural communities and tribes.** The U.S.C.G. has actively established relationships with, communicated with, and coordinated with tribes in our region of Alaska. Other agencies, such as FEMA, USCOE, and the Departments of Homeland Security (both state and federal) should follow suit.

Thank you for providing me the opportunity to be here to provide you with some insight to the issues and offer recommendations. I appreciate your efforts to identify and implement solutions to ensure that our tribal members are safe in the communities that they were forced to settle in. The benefits of allocating resources proactively, as opposed to after a disaster, must be considered. No person in the most developed country in the world, regardless of ethnicity, should be subject to the threat of loss of life due to conditions that can be mitigated by governmental actions. The U.S. is an arctic nation and has an obligation to assert its sovereign authority and protect national interests. With the authority comes responsibility for disaster prevention, mitigation, and response, especially in an area such as the Bering Strait Region, which is exposed to international ocean traffic. Kawerak stands ready to be a partner with our tribes, local, state, and federal governments toward this end.

STATEMENT

OF

DAVID MILLER  
ASSOCIATE ADMINISTRATOR  
FEDERAL INSURANCE AND MITIGATION ADMINISTRATION

AND

KENNETH MURPHY  
REGIONAL ADMINISTRATOR  
REGION 10

FEDERAL EMERGENCY MANAGEMENT AGENCY  
U.S. DEPARTMENT OF HOMELAND SECURITY

BEFORE  
THE

COMMITTEE ON HOMELAND SECURITY AND GOVERNMENTAL AFFAIRS  
SUBCOMMITTEE ON EMERGENCY MANAGEMENT, INTERGOVERNMENTAL  
AFFAIRS AND THE DISTRICT OF COLUMBIA  
U.S. SENATE  
WASHINGTON, D.C.

**"EXTREME WEATHER IN ALASKA: STATE AND FEDERAL RESPONSE TO  
IMMINENT DISASTERS IN THE ARCTIC"**

Submitted  
By

Federal Emergency Management Agency  
500 C Street, S.W.  
Washington, D.C. 20472

SEPTEMBER 13, 2013

**Introduction**

Chairman Begich, Ranking Member Paul and Members of the Subcommittee, this testimony is submitted jointly by David Miller, Federal Emergency Management Agency's (FEMA) Associate Administrator for the Federal Insurance and Mitigation Administration (FIMA), and Kenneth Murphy, Regional Administrator of FEMA's Region 10. On behalf of FEMA, and the Department of Homeland Security, we welcome and appreciate the invitation to appear before the Subcommittee. It is a distinct honor and privilege to be here today.

The men and women of FEMA Region 10 are dedicated to meeting the pre- and post-disaster needs of the people of Alaska using the programs and authorities provided to us by Congress and the President.

Before I discuss the specific programs applicable to the topic of this hearing, I would like to acknowledge that the success of FEMA and our programs is dependent on strong professional partnerships with state and federal agencies, as well as our local and tribal counterparts. Thanks to the leadership of Major General Thomas H. Katkus, Commissioner of the Alaska Department of Military and Veterans Affairs, and Mr. John Madden, Director of the Alaska Division of Homeland Security and Emergency Management, we have forged a partnership that ensures successful emergency management for Alaskan communities and citizens. FEMA greatly appreciates their leadership, professionalism and dedication.

**FEMA's Role and Programs**

FEMA is the lead Federal agency responsible for coordinating disaster response, recovery and mitigation efforts following disasters and emergencies declared by the President. Our programs are made available to communities through our state partner organizations, and are intended to supplement the response activities and recovery programs of states and tribes. Most of our assistance programs are authorized under the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended, commonly referred to as the "Stafford Act." The Stafford Act is widely known as the authority by which programs are made available following disaster declarations. All of these programs support the implementation of the National Mitigation Framework, which is doctrine developed by the whole community to serve as a common

platform for coordinating and addressing how the Nation manages risk. The Framework offers guidance on how the whole community can work together to build resilience and reduce long term vulnerability.

FEMA's programs are designed to assist states, tribes and communities in carrying out their responsibilities and priorities. Our assistance is available in numerous forms, including grants, technical assistance and planning assistance, which addresses the impacts of disasters and takes steps to reduce the potential impacts. Assistance that is made available to states, tribes, territories, communities, cities and individuals following disasters includes:

- The Public Assistance program provides supplemental Federal disaster grant assistance for debris removal, emergency protective measures, and the repair, replacement, or restoration of disaster-damaged, publicly owned facilities and the facilities of certain Private Non-Profit (PNP) organizations. The program also encourages protection of these damaged facilities from future events by providing assistance for hazard mitigation measures during the recovery process.
- The Individuals and Households program helps ensure the essential needs of individuals and families are met after disasters so they can begin the road to successful recovery; and
- The Hazard Mitigation Grant Program (HMGP) provides grants to states, Indian tribal governments and local governments to implement long-term hazard mitigation measures after a major disaster declaration. The purpose of the program is to reduce the loss of life and property due to natural disasters and to enable mitigation measures to be implemented during the recovery from a disaster.

FEMA also operates pre-disaster programs. We offer the Pre-Disaster Mitigation (PDM) grant program, authorized under the Stafford Act, and the Flood Mitigation Assistance Program, authorized under the National Flood Insurance Reform Act of 1994, as amended. The National Flood Insurance Program (NFIP), authorized by the National Flood Insurance Act of 1968, as amended, is also available.

Three of FEMA's programs are available to the State of Alaska and the Alaskan Native villages in their efforts to address the complex challenges of flooding and erosion. I will also cover the limitations to these programs that results in their being part of the solution, but not the total answer to addressing the flooding and erosion vulnerabilities.

The PDM grant program is available to communities through state emergency management organizations, and is designed to fund nationally competitive mitigation projects and planning efforts on the part of states and communities, as identified and prioritized in state and local mitigation plans. Funding for this competitive grant program is not triggered by a Presidential disaster declaration; rather it is funded through the annual appropriations process.

Examples of projects funded under the PDM program include the development of all-hazard mitigation plans, seismic retrofitting of critical public buildings, and acquisition or relocation of flood-prone properties located in the floodplain, among others. All projects submitted are developed at the state or local level, must be cost-effective and technically feasible, and are selected based on national priorities. Annual appropriations are \$25 million nationwide in fiscal year 2013. Specific project applications are capped at a Federal share of \$3 million per project. Since the program's inception in 2003, Alaska has received \$1.9 million to address several local and state-wide planning projects and seismic retrofits of schools in Anchorage and Kodiak Island. The PDM standard cost share requirement is 75 percent Federal and 25 percent local, state, tribal or other contributions. At present, the State of Alaska does not provide the cost share for PDM projects. The PDM also offers a 90/10 cost share incentive to communities that meet the definition of "small and impoverished," which is determined by criteria addressing community population, per capita income and unemployment rates.

The HMGP is available to states, tribes and local governments following Presidential Disaster Declarations as requested by a state's governor or chief executive of a tribe. This program has similar requirements as the PDM grant program, though funds become available only after a disaster is declared, and are available anywhere within the state or tribe in which the declaration was made. The amount of assistance available under the HMGP is a percentage of FEMA's

assistance made available under the response and recovery programs for the declared major disaster. HMGP funds are generally 15 percent of assistance under these programs for states with a Standard State Mitigation Plan and 20 percent of assistance under these programs for those with an Enhanced State Mitigation Plans.

Over the last five years there have been eight Presidentially declared disasters in Alaska. Disaster declarations that occurred between 2008 and February of 2012 have resulted in over \$7.6 million in HMGP funds used statewide. The HMGP cost share requirement is 75 percent federal contribution to 25 percent non-federal, as provided in the Stafford Act. For many years the State of Alaska has paid the 25 percent match on behalf of local subgrantees. Non-federal cost share can be comprised of state or local community match; private property owners, in-kind work and certain other federal program contributions when the eligibility requirements of both programs can be met.

Of the \$29.6 million in HMGP funds obligated in Alaska since the inception of the program, \$7.5 million or 25 percent has been spent on relocation projects for Alaskan Native Villages. Specifically, over \$6.3 million in Federal funding was provided to relocate 11 structures to higher and safer ground, including three public buildings in Alatna; \$900,000 in Federal funding was provided to relocate 27 homes in Allakaket; and \$200,000 in Federal funds was provided for relocating and elevating homes and a municipal building in Alakanuk. For all of these projects, the State of Alaska provided the 25 percent match funding. A large majority of projects and funding have been targeted to inland communities prone to riverine flooding or damage by ice jams. Very few projects related to coastal erosion have been submitted to FEMA for funding.

As with the PDM grant program, all projects are developed at the state, tribal or local level and submitted to the state. The state prioritizes and selects the projects that best fit the Tribal/State Mitigation Plan and recovery priorities. All projects must be cost-effective and meet all other program eligibility requirements. Some examples of projects eligible for HMGP and the PDM grant funds include the development of all-hazards mitigation plans at the tribal, state and local levels, the seismic retrofitting of critical public buildings, and acquisition, relocation or elevation of flood-prone properties located in the floodplain. While erosion control may be an eligible

project under HMGPs, if the scope of the erosion is severe, a major project is generally implemented by agencies such as the U.S. Army Corps of Engineers, which has specific authority for these types of projects. FEMA does not fund major flood control projects or provide assistance for activities for which another Federal program has a more specific or primary authority to provide.

FEMA's Flood Mitigation Assistance (FMA) Program is authorized for mitigating structures insured by the NFIP, which are located within a community participating in the NFIP. Projects include the elevation, relocation and acquisition of flood prone structures, and projects to address minor, localized flooding issues, such as upgrading culverts, building detention ponds, and otherwise improving local stormwater management facilities. The standard Federal cost share requirement for the FMA is 75 percent federal contribution to 25 percent non-federal. The current version of the FMA grant program represents a consolidation of three separate grant programs: the Flood Mitigation Assistance Program, the Repetitive Flood Claims Program and the Severe Repetitive Loss Program. In FY 2013, \$120 million was appropriated for the FMA program nationwide. Because this program is funded by resources collected from NFIP policyholders, the recent focus of the program has been on mitigating repetitive loss structures in order to reduce the drain on the National Flood Insurance Fund. Projects are ranked and selected nationwide based on the greatest benefit to the Fund.

Flood grant projects in Alaska include \$600,000 provided to Shishmaref in 1998 for relocation of nine homes to a former airstrip located inland on higher ground. The FMA program has also funded buyout or elevation of several individual structures in various communities since the program's inception in 1997.

In addition to consolidating the three former flood mitigation grant programs into the FMA Program, the Biggert-Waters Flood Insurance Reform Act of 2012 created funding incentives for two classes of NFIP-insured structures that have been flooded on more than one occasion. Newly defined "Repetitive Loss" properties are eligible for 90/10 federal/non-federal cost share. Repetitive Loss structures are those that have experienced at least two flood losses in which the cost to repair the damage in each flood was 25 percent or more of the market value of the

structure. At present, the State of Alaska does not have any documented properties that meet this new definition. The second category of incentive properties is Severe Repetitive Loss (SRL) structures that are eligible for 100 percent Federal funding; i.e., no match is required. SRL structures are those that have experienced four or more flood losses of exceeding \$5,000 each, with the total claims paid exceeding \$20,000, or properties that have received at least two separate flood claims payments, where the cumulative flood claims payments exceed the Fair Market Value of the insured structure. Of the two SRL properties validated in Alaska, one has recently been mitigated through elevation of the structure.

The NFIP currently has 32 participating communities in Alaska, representing boroughs, cities, towns, and Alaska Native village municipalities. Collectively they maintain \$735 million in flood insurance coverage. Since 1978, the NFIP has paid 581 claims for \$5.9 million to Alaska residents. Twenty-eight of the 3,022 policies statewide are subject to coastal flooding and erosion hazards.

Many of the remote Alaskan communities vulnerable to flooding and coastal erosion still do not have their flood hazard areas mapped and are not participating in the NFIP, which is a requirement for consideration under the FMA program, even in unmapped areas. In 1998, Shishmaref joined the NFIP and as a result of that was eligible for a Flood Mitigation Assistance grant to relocate some of their structures. In 2001, the Municipality of Shishmaref received their first published Flood Insurance Rate Map (FIRM) followed by a modernized digital FIRM in 2010. Similarly, Nome also received their first digital firm in 2010. However, many Alaska Native Villages are not in the NFIP because they do not have the land use authority to pass and enforce a floodplain management ordinance required for participation.

There are significant eligibility and funding challenges to FEMA and its state partner in developing successful mitigation projects, including relocation, in Alaska Native Villages. With respect to eligibility, projects that receive FEMA grant funding must demonstrate “cost effectiveness,” through a positive comparison of project benefits to costs, the benefit-cost ratio. OMB Circular A-94 (*Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs*) requires that FEMA apply a benefit-cost analysis to its grants programs to promote

efficient resource allocation. FEMA provides specialized software tools to perform these analyses. Essentially, an applicant must demonstrate that the annualized benefit of the project is the same or greater than the current project cost. With the high construction costs in rural Alaska and low population benefited, developing a project or relocation effort with a positive benefit-to-cost ratio is challenging. A project must be cost-effective to be eligible for funding consideration.

Fortunately, due to recent efforts to streamline the implementation of FEMA's various hazard mitigation grant programs, two Benefit-Cost policies have been enacted that will assist many communities in demonstrating the cost-effectiveness of their projects. First, if a residential structure located in a riverine floodplain or floodway is substantially-damaged by flood, meaning the cost to repair is 50 percent or more of the depreciated value of the structure, no further analysis is required. Experience has shown, and data supports that such projects are cost-effective. Secondly, FEMA just released "Pre-calculated Benefits" for flood acquisition and elevation projects based on an analysis of over 11,000 structures. This means that if the project cost for an individual structure, or the average of all the structures in a project, is at or below a certain threshold, that mitigation activity is cost effective. Property acquisitions costing less than \$276,000 and for elevations less than \$175,000 are determined to be cost-effective, and no further review is required. Structures costing more than these threshold values may be cost-effective based on standard BC analysis.

FEMA's programs have other eligibility requirements that most Alaska Native Villages currently do not meet, including a FEMA-approved mitigation plan. Mitigation plans are critical in identifying the risks and assessing the vulnerabilities facing Alaska Native Villages and other communities, and then identifying a range of strategies and projects to reduce those risks. The plans ensure that the public is involved in the process and potential mitigation solutions have the support necessary for successful implementation. However, the State of Alaska embarked on a major initiative in 2005 to assist small rural communities throughout the State to assess their hazard vulnerability and develop local hazard mitigation plans compliant with FEMA standards. FEMA has been actively supporting the State to address this eligibility requirement. The State has received planning project awards to contract for direct provision of planning technical assistance to these rural communities. As a result, over 50 rural villages have been certified as

having FEMA-compliant hazard mitigation plans, and planning efforts are currently underway to assist 22 additional rural villages. Over the last five years, FEMA has provided over \$2 million in funding for planning through the PDM grant program, plus additional funding through the HMGP, to support local planning in Alaska. We will continue to support the State's efforts to assist their local communities and Alaska Native Villages to develop and regularly update mitigation plans to expand eligibility for project funding.

As previously stated, funding challenges do exist. Since the HMGP's funding availability is based on declared disaster losses, it would take a catastrophic disaster or many disasters for the state to receive the level of mitigation funds needed to address the full relocation needs of the Alaska Native Villages. For example, the Newtok relocation currently underway is forecast to cost \$400 million, or roughly \$1 million per resident. HMGP funds resulting from the event in November 2012 are approximately \$1.6 million. The most recent event has not yet been calculated, but early estimates indicate it is at least as much as the November 2012 declaration. Funding from previous events in recent years ranges from \$200,000 to \$312,000.

Within the context of these obstacles, FEMA has worked with our Alaskan State partners on the challenge of flooding and erosion in Alaska Native Villages.

To address coastal erosion, in 1998 the Flood Mitigation Assistance program funded \$600,000 of an \$800,000 project to relocate nine private structures within Shishmaref. More recently, in 2006, FEMA funded a \$46,000 project through the HMGP program to relocate Shishmaref's computer cottage.

After the Yukon River flooded in June of 2009, a disaster declaration was issued, making residents eligible for financial assistance from FEMA. With assistance from FEMA, the Village of Eagle moved away from the water's edge in an effort to stop the repetitive losses from annual spring flooding with assistance from FEMA. Today after the move to higher ground, the mitigation effort has reduced the loss of property and the loss of lives for this community during this year's flooding.

**Conclusion**

FEMA is looking at the issue of coastal erosion through the establishment of the Technical Mapping Advisory Council (TMAC), which was mandated as part of the Biggert-Waters Flood Insurance Reform Act of 2012. Specifically, the Act requires the Administrator to include coastal erosion areas when updating maps. FEMA is actively working to establish the Council as a Federal Advisory Committee.

FEMA will continue to be an active partner in efforts to address the Alaska Native Villages' vulnerabilities. We will continue to work with the State of Alaska on defining mitigation planning priorities and in direct partnership with tribal nations and Native Villages, in a Federal-to-tribal relationship when applicable, and we will provide technical assistance within our areas of expertise.

We have worked hard to adapt our programs to meet the needs of communities in Alaska and we are committed to providing quality information, programs and products that give communities the information they need to make informed decisions about risk and demonstrative risk reduction.

In closing, if one or more communities experience significant flooding and a Major Disaster is declared, please be assured that the full breadth of appropriate Stafford Act capabilities and programs will be made available. FEMA will ensure the response, recovery and mitigation programs are provided with the greatest of coordination and allowable flexibility to ensure long-term plans of the communities are considered, to include the potential relocation of certain structures and facilities.

We appreciate the opportunity to represent the Federal Emergency Management Agency and the Department of Homeland Security before the Subcommittee on Emergency Management, Intergovernmental Relations and the District of Columbia. We would be pleased to answer any questions you may have.

DEPARTMENT OF THE ARMY  
U.S. ARMY CORPS OF ENGINEERS

COMPLETE STATEMENT  
OF

COLONEL CHRISTOPHER D. LESTOCHI  
DISTRICT COMMANDER  
ALASKA DISTRICT, PACIFIC OCEAN DIVISION

BEFORE THE

COMMITTEE ON HOMELAND SECURITY AND  
GOVERNMENTAL AFFAIRS

SUBCOMMITTEE ON EMERGENCY MANAGEMENT,  
INTERGOVERNMENTAL RELATIONS  
AND THE DISTRICT OF COLUMBIA

UNITED STATES SENATE

ON

Vulnerable Communities in Alaska:  
Ensuring a Whole of Community Response to Extreme Weather

SEPTEMBER 13, 2013

## INTRODUCTION

Chairman Begich and distinguished members of the subcommittee, I am Colonel Christopher D. Lestochi, Commander of U.S. Army Corps of Engineers (Corps) Alaska District. Thank you for the opportunity to appear before you today to discuss coastal storm damage and erosion issues in Alaska.

I will provide you with a brief overview of the Alaska District, a review of Corps erosion authorities and programs, and highlights of the challenges regarding coastal erosion affecting Alaskan communities.

## PACIFIC OCEAN DIVISION

The Pacific Ocean Division is headquartered in Honolulu, Hawaii with district offices located in Hawaii, Alaska, Japan, and South Korea. All of our districts have important military missions. In addition, the Honolulu and Alaska Districts have a Civil Works mission that provides for water resources development and restoration, primarily in the areas of commercial navigation, flood and coastal storm damage reduction risks, and ecosystem restoration. It is through our Alaska District's Civil Works program that we are involved in addressing erosion problems that affect Alaskan communities.

## CORPS OF ENGINEERS AUTHORITIES

The Corps has several Civil Works authorities to address flooding and erosion problems. They include specific congressional authorizations for the programs; the Continuing Authorities Program, the Planning Assistance to States Program, the Tribal Partnership Program, the Flood Control and Coastal Emergencies authority, and Alaska-specific authorizations such as Section 116 (P.L. 111-85) of the 2010 Energy and Water Development and Related Agencies Appropriations Act relating to Alaska flood, erosion and ice damage. Each of these authorities has different implementing rules and limitations.

In addressing erosion problems, the Corps works closely with local, state, federal, tribal, and private interests to understand and incorporate the concerns represented by these various stakeholders. The Corps weighs the concerns, balances the needs, and examines the risks, costs and benefits to determine federal interest, and to make technically, environmentally, socially, and economically sound risk-informed decisions. I would like to outline each of the authorities related to coastal erosion and what we have accomplished under them.

### Specifically Authorized Studies and Projects

Specifically authorized studies may be initiated as provided by the Rivers and Harbors in Alaska Study Resolution, adopted by the U.S. House of Representatives Committee on Public Works on December 2, 1970. Construction of a project studied under this authority does, however, require specific congressional construction authorization. The

non-federal cost sharing requirements are 50 percent for feasibility studies, 25 percent for preconstruction engineering and design, and 35 percent for construction of erosion projects.

The Corps has completed construction of three congressionally-authorized projects at, Galena, Homer Spit, and Talkeetna. Additional authorized projects involve construction at Bethel and Dillingham, which are not yet completed.

#### Continuing Authorities Program

This program authorizes the Corps to plan, design, and construct erosion projects without additional and specific congressional authorization. The Continuing Authorities Program is funded nationwide and is subject to specific limits on allowable federal expenditures at both the program and project level. The applicable program authorities that address erosion include the following:

- Section 14 of the Flood Control Act of 1946, as amended. This authorizes emergency stream bank and shoreline erosion protection for public facilities subject to a federal limit of \$1,500,000 per project and \$15,000,000 nationwide per year. The non-federal cost sharing requirement is 35 percent. The Alaska District has constructed five projects under this authority at Shishmaref, Emmonak, Deering, Metlakatla, and Bethel; and is working on two on-going studies at Saint Michaels and Karluk.
- Section 103 of the River and Harbors Act of 1962, as amended. This authorizes shore protection for publicly owned property from hurricane and storm damage, subject to a federal limit of \$5,000,000 per project and \$30,000,000 nationwide per year. The non-federal cost sharing requirement is 35 percent. The Corps has not constructed any projects under this authority in Alaska and currently has two on-going studies at Kwigillingok and Golovin.

#### Planning Assistance to States

Section 22 of the Water Resources Development Act (WRDA) 1974 (PL 93-251) allows the Corps to assist states in the preparation of comprehensive plans for the development, utilization, and conservation of water and related resources of drainage basins. This may include consideration of erosion problems. There is no construction authority associated with this program. Annual federal funding is limited to \$2,000,000 per state or tribe. The non-federal cost sharing requirement is 50 percent. The Planning Assistance to States program has been used to provide relocation planning assistance to the villages of Kivalina and Newtok.

#### Other Corps Authorities

- Technical Assistance – Section 55 of WRDA 1974 (PL 93-251) allows the Secretary of the Army, acting through the Chief of Engineers, to provide technical and engineering assistance to non-federal public interests in developing structural and non-

structural methods of preventing damages attributable to shore and stream bank erosion. Section 55 provides no construction authority. Non-federal cost sharing is not required. The Corps is currently working on Kenai River Bluff under this authority.

- Tribal Partnership Program – Section 203, WRDA 2000 (PL 106-541) authorizes feasibility studies of water resources projects that will “*substantially benefit Indian tribes and that are located primarily within Indian country or in proximity to Alaska Native villages.*” Section 203 has a \$5,000,000 annual program limit and allows no more than \$1,000,000 for one Indian tribe. The program provides no construction authority. The non-federal cost sharing requirement is 50 percent for feasibility studies. Under this authority and at the direction of Congress, the Corps has conducted several studies including the Alaska Baseline Erosion Study, Alaska Coastal Erosion Data Collection, and provided technical assistance for the village of Newtok relocation effort.

- Flood Control and Coastal Emergencies – Under the Flood Control and Coastal Emergencies Advance Measures (P.L. 84-99), assistance may be provided to prevent loss of life and catastrophic property damage when there is an imminent threat of unusual flooding. Under this authority, the Corps provided assistance to Kivalina during the fall storms of 2006 and more recently, for the August and September 2007 storms.

#### Alaska Specific Coastal Erosion Authorities

Section 117 (now repealed) of the Fiscal Year 2005 Consolidated Appropriations Act (P.L. 108-447) authorized the Secretary of the Army “*to carry out, at full Federal expense, structural and non-structural projects for storm damage prevention and reduction, coastal erosion, and ice and glacial damage in Alaska, including relocation of affected communities and construction of replacement facilities.*” The Corps has utilized this authority. At Kivalina, 2,000 feet of shoreline protection was installed in 2008-2009. At Shishmaref, 1,375 feet of shoreline protection was installed in 2007-2009. At Unalakleet, 671 feet of shoreline protection was installed in 2007-2009.

Section 117 was repealed by Section 117 of Division C of the Omnibus Appropriations Act of 2009 (P.L. 111-8).

A new authority, Section 116 of the Energy and Water Development and Related Agencies Appropriations Act, 2010 (P.L. 111-85) provides a similar authority, however; Section 116 requires cost sharing of up to 35 percent non-federal whereas Section 117 had no cost sharing requirement. The only Section 116 construction project undertaken to date is at Unalakleet, under the Alaska Coastal Erosion program, where the existing 671 feet of revetment is currently being extended to 1,500 feet. Appropriations under the heading of the Alaska Coastal Erosion program have been provided to fund projects using the Section 116 authority.

## CHALLENGES

As noted in the June 2004 Government Accountability Office report on Alaska Native villages affected by flooding and erosion, it is often difficult for the majority of Alaska's small and remote communities to finance and meet the multiple criteria required for federal participation in implementing a solution. The remoteness of many of the areas, severe weather conditions, and the subsistence economies of the communities are major contributing factors. Perhaps the biggest challenges are the costs and risks associated with implementing erosion control solutions in these often remote communities. These include high mobilization costs, the limited construction season, and the difficulty of transporting and obtaining adequate rock and other materials.

The March 2009 Alaska Baseline Erosion Assessment identified 178 communities that reported erosion problems, 26 of which were deemed to warrant immediate attention. All 26 were contacted regarding ways the Corps could assist the communities. Six currently have active projects with the Corps. The remainder either did not request assistance, their projects were found to not meet the requirements of existing Corps programs, or the non federal sponsor could not meet the cost share requirement.

The risks associated with the coastal erosion challenges in Alaska are complex. Risk considerations include determining the acceptable level of protection from erosion and flooding, deciding whether to relocate or remain, and consideration of the economic, social, cultural, and environmental impacts.

## CONCLUSION

The Corps has the technical expertise to address solutions based on a systems approach, and the capability to communicate and assist with risk informed decision making associated with the complex storm damage and erosion problems in Alaska's coastal villages. We are proud to work in collaboration with the many federal, state, local, and tribal entities to assist in recommending and implementing solutions for the coastal erosion challenges faced by the Alaskan communities.

Mr. Chairman and subcommittee members, this concludes my statement. Again, I appreciate the opportunity to testify today and look forward to answering any questions you may have.

**MR. JOHN W. MADDEN**

**Director, Alaska Division of Homeland Security  
and Emergency Management**

STATEMENT FOR THE RECORD

On behalf of

The State of Alaska

Before the Senate Homeland Security Committee  
Subcommittee on Emergency Management, Intergovernmental Operations,  
and the District of Columbia

*Extreme Weather in Alaska: State and Federal Response to Imminent  
Disasters in the Arctic*

September 13, 2013

Thank you, Chairman Begich, for holding this hearing today. I appreciate the opportunity to appear before you to provide a state perspective in this important dialog on preparedness for all our Alaska communities and especially those most directly affected by extreme weather.

Our state faces an extreme range of hazards – from nature, humans, and technology. We are no stranger to disasters as we have experienced a declared disaster on average every ninety days since statehood. Therefore the State of Alaska chooses a strenuous strategy of prepreparedness for our citizens, our businesses, our volunteers, our federal partners, state agencies, and our communities. We seek to create and sustain a posture of preparedness enabling a swift, coordinated response, enabling an immediate, comprehensive recovery.

The fundamental element of our strategy is to assist community leadership in obtaining information needed to solve problems and to make informed decisions for the safety and security of their communities.

I have four sections to illustrate our approach: the recent history of Alaskan disasters; how we understand, assess, and address risk; state support of local preparedness and planning; and our next steps to improve upon our already effective programs.

#### **Recent History of Alaskan Disasters**

Our state has experienced a declared disaster an average of every ninety days since statehood. Most of these we handled through our state programs. For the remainder we requested assistance from the President. This is not a comprehensive list but a representative one.

2007 A very strong sea storm hit Kivalina with wave surges threatening to breach the barrier island. About 400 residents evacuated in small boats across the lagoon to safe haven.

2008 Three separate storms – from the Pacific and Arctic Oceans, and the Bering Sea caused severe floods in Nenana and breached the seawall in Wainwright.

2009 Mt. Redoubt Volcano erupted nineteen times from March to July 2009 causing disruptions in aviation and maritime supply lines. The first cases of H1N1 influenza were first detected in the United States in April resulting in extensive surveillance and distribution of vaccine throughout the state. The breakup of the Yukon and Kuskokwim Rivers in May resulted in damage from extreme floods and ice in dozens of communities with Eagle, Tanana, and Stevens Village among the hardest hit. During a prolonged fire season, 527 fires burned close to three million acres.

2010 A late season Bering Sea storm deposited sea spray drawn from rare open water onto power lines in Savoonga causing widespread power outages.

2011 The Tohoku earthquake in Japan generated a Pacific wide tsunami that reached Alaska in less than five hours and swept through Alaskan coastal communities for another five hours. Crooked Creek on the Kuskokwim lost many residences from extreme flood and ice. An extra tropical typhoon moved from the western Pacific past the Aleutian Islands in October 2011 and damaged dozens of western and northwestern communities with storm surges and high winds.

2012 A series of closely spaced and intensive storms dropped record amounts of snow on several Prince William Sound communities and threatened to collapse buildings and disrupt transportation. A series of closely spaced storm systems hit south central Alaska in September and October and brought damaging winds up to 130 miles per hour and widespread flooding across 60,000 square miles.

2013 The spring ice breakup on the Yukon River again hit communities from Eagle to Emmonak with the heaviest damages at Galena and Circle.

The only common factor throughout these events is that we cannot rely upon the thirty year averages to guide our planning or our preparedness. Rather we must expect the unexpected and plan for uncertainty.

#### **Understanding and Reducing Risks**

The national process of assessing risk has several points of origin in Alaska. Threat and hazard identification and risk assessment or THIRA seeks to aid in making rational decisions to build capabilities that address hazards and conceptually reduce risks. The federal system starts by identifying hazards. The Alaskan approach begins with understanding how things work during normal operations or what we refer to as peacetime. We focus on the movement of goods and people and the provision of essential services. By understanding these we have a better grasp of what can go wrong and the consequences.

As we conduct our analysis we seek to understand the interdependencies between our systems. What are the effects on banking from the loss of communications? on healthcare from loss of energy? on food from loss of transportation? By documenting and mapping these relationships we can decide on investments that build the capabilities with the greatest probability of reducing risks -- perhaps from more than one risk or hazard.

Unfortunately the federal THIRA is not the problem solving approach it could and should be. THIRA within Alaska is an iterative process where we vary the assumptions and conditions to seek deeper understanding of our options. The federal process flows like this:

1. The major hazard is a flood.
2. Based on history, you need shelter for 500 people.
3. Based on current capabilities, you can shelter no more than 250 people.
4. Based on mutual aid, the adjacent community can shelter the other 250 people.
5. Problem solved.

But is it really solved?

Alaska decided to embrace the complexity of the real world. We introduce and understand the effects of seasonality, time of day, demographics of the community, and the various types of flooding (precipitation, rising water table, storm surge, ice jam, ballistic ice, etc.). These complexities call for more analysis but results in more realistic problem solving. Every shread of analysis in peacetime contributes directly to more effective response during the disaster. Because of the multiple levels of analysis, we need only to adapt our analyses and plans rather than replace them when they encounter anything unanticipated..

The Alaska process flows like this:

1. How do things work in peacetime?
2. What can go wrong?
3. What are the consequences?
4. What needs to be done to reduce risk?
  - a. What capabilities are needed to address the consequences in all their forms?
  - b. What investments will produce the capabilities (training, exercises, plans, commodities)?
  - c. Who else can contribute to these capabilities and under what conditions can we rely upon them?
  - d. How will we measure the performance and effectiveness of these investments?

Without a continuous and iterative process, no state or community can ensure its investments will accomplish any reduction in risk. Without using the real world for our inspiration, we cannot ensure our plans will succeed when applied against the unpredictability and uncertainty of the real world. Many of the disasters I outlined earlier in this statement occurred for the first time in each location in thirty, forty, even one hundred years. Absence of a pattern does not remove the risk of one emerging. Decades without a disaster does not decrease the possibility of one happening tomorrow.

#### **State Support of Local Preparedness and Planning**

Within this era of uncertainty, the State of Alaska has not waited for clarity or perfect information. We have approached uncertainty by investing in the human element and in capabilities that can brought to bear on all our hazards. Knowing that help is a long ways from Alaska, the Governor directed a program to develop essential capabilities that can be counted upon under all conditions and throughout the state.

We have a multi-tiered emergency communications systems that is completely independent of the commercial systems. This includes the most modern and failsafe mobile emergency operations and command center in the nation. This is supplemented with transportable communications trailers moveable even by small aircraft or snowmachine. The third element is a supply of backpack communications systems distributed around the state to serve as the immediate and initial communications link upon which we can augment. The final backup is the placement of satellite telephones in hundreds of communities that are regularly tested and exercised. These state assets are complemented and integrated with communications systems of the Alaska Land Mobile Radio network, the Alaska National Guard, the Department of Defense, and FEMA.

We have a -cache of emergency generators rated from 100 kilowatt up to two megawatt power rating. These generators are Arctic retrofitted and transportable by air, land, and sea. These will not replace the entire power generation of our larger cities but are designed to power the critical infrastructure and provide for the continuation of essential services.

We have a similar cache of water purifications systems of range from a few hundred gallons an hour to tens of thousands of gallons a day. The smallest units can be carried by one person and set up by anyone without training. The largest unit can provide clean water by desalination of sea water. Again, these are not designed to replace entire water systems but will provide the essential quantities until the permanent systems are repaired.

We believe by experience and education that the three most critical elements for success in any disaster are reliable information contributing to problem solving supporting decision making. We further all three elements with our communities through conferences, training, exercises, and plans. We have held tsunami conferences throughout our southern coastal communities from Unalaska to Metlakatla. By good fortune, we completed these conferences before the Japanese tragedy in March 2011. In that event, every community received automated or voice warnings well before the arrival of the leading waves. Each community invoked its tsunami plan and several began evacuation to pre designated safe havens.

We hold a state-wide preparedness conference each spring and summer to focus on the threats and hazards facing us. Recent themes have been on school safety and security, health systems during emergencies, and continuity of government and operations under all conditions. We enable communities hit by disasters to share their experiences and their lessons with others facing similar threats. We provide highly relevant training to ensure that every community has the tools, plans, and experience when facing the uncertainty of nature, humans, or technology. We bring in speakers from around the world with first-hand experience with earthquakes, tsunamis, mass casualties, disruption of all lifelines who tell their stories in plain terms for immediate benefit of the leadership of participating communities.

Most of our recent disasters occurred in our rural communities. With the uncertainty of the weather and the climate, these disasters do not strike the same communities each year. Because of this, we cannot focus our efforts only on a few communities. All our communities face some risk against some hazards. Therefore, we choose to prepare all our communities to the highest levels possible within our resources. In the last year, we developed the Small Community Emergency Response Plan. This guide is not a substitute for deliberate planning but rather a distillation of that process. When action must be swift and decisive, a community leader has in one binder all the essential elements, all the contacts, and all the guidelines necessary to protect lives and property. It even has a hole on which it hangs on a nail on the wall. Several dozen communities have completed or in the process of completing these plans. These are Alaskan in design and in focus. But several other states and territories are considering similar plans for their small communities.

#### **Next Steps**

The Governor of Alaska has placed an extremely high priority for preparedness against all threats and all hazards -- possibly among the highest in the nation. That priority and the consistency of the support from the Governor and the Legislature have enabled the transformation of Alaska preparedness from a reaction to a discipline. No community stands alone against any hazard. It is joined by the state as its partner. No individual must bear the total burden of preparedness. The state shares that burden.

March 2014 marks the fiftieth anniversary of the Good Friday Earthquake in 1964. We chose to commemorate that event and the Alaskans lost to the nation's most powerful earthquake with the largest and most complex exercise in our history. Alaska Shield 2014 will involve close to 85% of our

population throughout all regions, in communities large and small, and include the private sector and volunteer organizations. In all the intricacy of the scenario, we will emphasize and test our progress in gaining reliable information, solving problems, and making decisions by all the participants. We will simulate breaks in our supply lines and work to restore them. We will simulate disruption to essential services and work to bring them back. We will simulate separation of families and strive to reunite them. We will simulate a loss of communications and test our command and control systems with independent but unified responses. We will simulate our people leaving their homes and congregating for care and support.

Alaska Shield 2014 will be the premier exercise in our history. Further, our federal partners in the Department of Homeland Security have chosen our Alaskan exercise as the capstone exercise in the nation. This decision recognizes that a catastrophic event in Alaska will be a true test of the nation's ability to rally to the needs of its people. In this exercise we will join with many Alaskan communities in testing our ability to rapidly stabilize the disruptions. These include Anchorage, Fairbanks, Matanuska Susitna Borough, Cordova, Valdez, Kenai Peninsula Borough, Unalaska, and many others, along with many state agencies.

We expect all our assumptions to be challenged by this exercise and many to be validated. But the true value of this exercise is to reveal any areas where our myopia and pride have disguised a true need of our people. We will not have an exercise scripted for success. Rather will exercise to reveal what we are overlooking and where we must focus our future investments.

#### **Summary**

In summary, the State of Alaska faces threats, hazards, and risks far disproportionate to our population. Our people, our economy, even our culture are at risk of severe disruption if we leave our preparedness to chance. The changing nature of the Arctic ice and our experiences with extreme weather in recent years require us to learn from the past but not be blinded by it. Our greatest risks are on the ones we do not anticipate and for which we do not prepare. Through leadership of the state, support of our communities, and involvement of all partners, Alaska is a leader of the nation in emergency management. Our citizens deserve no less.

**Post-Hearing Questions for the Record**  
**Vivian Korthuis**  
**October 31, 2013**

**"Extreme Weather in Alaska:  
State and Federal Response to Imminent Disasters in the Arctic"**  
**September 13, 2013**

- 1. Are there differences in organizing mitigation efforts for Bering Sea communities who are experiencing coastal erosion vs. inland communities that are dealing with riverine flooding/erosion? What type of expertise do your communities employ to assess how to address these hazards?**

The Association of Village Council Presidents (AVCP) region has limited mitigation efforts. AVCP contacted all 56 Tribes and requested information on erosion mitigation efforts. While several villages indicated that they were in great need of erosion mitigation, only a few mitigation projects were identified. In fact, when AVCP sent out the email asking for feedback on erosion mitigation in villages, most villages responded by asking for help and assistance with erosion issues. For the AVCP region, there appears to be no difference in organizing mitigation efforts between inland and coastal villages; however little mitigation effort is present. Villages contact AVCP to help assess how to address these hazards which is one of the primary reasons AVCP is taking the lead on this project. One village contacted the Army Corps of Engineers and another contacted the Alaska Department of Environmental Conservation.

Here are some of the comments pasted from village responses:

- Tuntutuliak: We have been looking to get funds/grants towards that particular problem but have been told that they can not fund if it has to do with resident homes. There are homes that are close to the river bank and would be very good if we could get help on getting funding sources.
- The community of Atmautluak would like solutions to solve our situation of erosion and we have been asking for help for over ten years now. A few days ago, I contacted one of the Army Corps of Engineers and send out digital photos to try help us with our erosion problem. Since one of the houses is about half way into the river and about 150 yards of boardwalk got eroded.
- Lower Kalskag: To my knowledge nothing is being done about the erosion above, throughout and below our village. Erosion has been an issue that was brought up by residents. This should be looked at before there may be more barge traffic in the future. This also can tie into flooding as well.
- Chevak is using funds from CVRF as a special project to work on erosion. We have six people that are removing hanging soil on a cliff along the riverside. The erosion has been a discussion beginning of the summer and how to address it. Spring break up, there was a 50 foot sink hole that developed in front of the hardware store and as a result we had a community and entities addressing the issue. Couple houses are in danger as a result of the erosion as it one that people consider to be an historic building which is only few feet from the edge of the cliff.

- Crooked Creek made note of road and creek erosion and we have some erosion control materials on hand that we will be applying next summer. However, we need to address erosion on the creek. I am looking for a grant that will allow us to purchase emergency supplies for disasters. After the 2011 flood, we realized that we must depend on ourselves to keep everyone safe and fed. Thank you for helping with this, AVCP. Your help is appreciated!
- Mekoryuk (Nunivak Island) lacks an extension for the existing breakwater in front of the village. Our storms prevail from the south and southeast, the existing breakwater (North of the bay) is adequate, but another is needed across and south of the existing breakwater. We still have boats that swamp during these storms. The beach is eroding at a rapid rate and has caused dangerous situations for a couple houses. Construction contractors arrive to Mekoryuk when a job needs to be done, therefore during one of these construction jobs (In the past), at the availability of heavy equipment, boulders were moved and used for a barrier to slow down erosion. However, the erosion continues to cause problems for the Mekoryuk Bay.
- Eek: There has been gradual erosion to date and with this substantial rainfall through much of October, there are spots that are eroding at a higher rate than in the previous. One area of concern is the old BIA site. It is by the river. We depend heavily on the Eek River for our survival.
- Kipnuk: Can you help us with applying for a grant for river erosion-like a metal sheet pile wall?

2. During the hearing, your testimony referenced AVCP's proposal for the western Alaska Emergency Operations Center. While you are requesting FEMA funds to establish the center, is there a plan for how the center will be financed and staffed going forward? Have local public safety and emergency management stakeholders pledged support for this effort?

The Association of Village Council of Presidents (AVCP) Region lacks a regional disaster preparedness recovery and resiliency plan. The regional entities responses to disasters have been reactive. The Western Alaska Emergency Response Center will create the opportunity for AVCP to partner and address regional disasters utilizing already existing AVCP and other regional programs. The Western Alaska Emergency Response Center will accomplish the following:

- Serve as the headquarters and training center for the regional VPSO program as well as other agencies and programs involved in emergency and disaster management.
- Serve as a warehouse for storage of response equipment.
- Enhance centralization, coordination and cooperation with the villages and private sector within the region to provide a unique opportunity to build facilities that support economic diversification and allow for efficient responses to future natural, environmental and industrial disasters.

The Capital Plan includes utilizing an already existing building owned by AVCP and renovating it. AVCP received a 2013 State of Alaska Legislative Grant in the amount of \$30k as an

opportunity for the AVCP region to become proactive. In addition, by utilizing a \$200k grant from the Department of Energy for energy modifications to the 8,400 square foot building, AVCP will submit a FY15 State of Alaska Capital Improvement Request for \$1.75 m to complete the renovation of the facility adjacent to the Kuskokwim River in Bethel, Alaska.

Operating Plan includes staffing the Western Alaska Emergency Operations Center with the Village Public Safety Officer (VPSO) Program who are the region's first responders in any emergency situation. There are 26 VPSO's currently employed by AVCP with 3 who will be hired within the next month. The funding for the program comes from the State of Alaska.

Resolutions or Letters of Support for the Western Alaska Emergency Response Center are attached from:

1. Association of Village Council Presidents
2. Crowley
3. Bethel Native Corporation
4. Calista Corporation
5. City of Bethel
6. Akiachak Native Community
7. Asa'carsarmiut Tribal Council
8. Crooked Creek Traditional Council
9. Native Village of Eek
10. Hamilton Tribal Council
11. Hooper Bay Traditional Council
12. Native Village of Kalskag
13. Native Village of Upper Kalskag
14. Kasigluk Traditional Council
15. Native Village of Kipnuk
16. Native Village of Kwigillingok
17. Organized Village of Kwethluk
18. Native Village of Mekoryuk
19. Native Village of Napakiak
20. Napaskiak Tribal Council
21. Nunakauyak Traditional Council
22. Native Village of Nunam Iqua
23. Native Village of Nunapitchuk
24. Pitka's Point Village Council
25. Tuluksak Native Community
26. Tuntutuliak Traditional Council
27. Umkumiut Tribal Council

End.



**ASSOCIATION OF VILLAGE COUNCIL PRESIDENTS  
P.O. BOX 219  
BETHEL, ALASKA 99559**

**ASSOCIATION OF VILLAGE COUNCIL PRESIDENTS  
EXECUTIVE BOARD OF DIRECTORS**

BETHEL, ALASKA AUGUST 22, 2013

**RESOLUTION NO: 13-08-04**

**TITLE:** Western Alaska Emergency Response Center

**WHEREAS** The Association of Village Council Presidents (AVCP) is the recognized tribal organization and non-profit Alaska Native regional corporation for the fifty-six member indigenous Native villages within Western Alaska and supports the endeavors of its member villages, and

**WHEREAS** AVCP fully supports its member villages in all aspects of their self-determination, health and well-being, and

**WHEREAS** The continued well-being of the AVCP Region in the case of weather-related disaster, such as flood or Tsunami, or a transportation disaster, such as an oil spill on the Rivers, or an aviation calamity at the Bethel Airport (the third busiest airport within Alaska) or within the AVCP Region Village Airstrips, is at risk due to the lack of a central point of coordinated recovery services, and

**WHEREAS** The AVCP Village Public Safety Officer's (VPSO's) are trained as first responders to any calamity within the AVCP region, and

**WHEREAS** AVCP is willing to dedicate a two-story unoccupied building located at the intersection of First Avenue and Tundra Street, that is easily accessible to the Kuskokwim River for the creation of a Western Alaska Disaster Relief Center that will also serve as the Western Alaska VPSO Headquarters and Academy, and

NOW THEREFORE BE IT RESOLVED THAT the Association of Village Council Presidents Executive Board directs AVCP to complete the design and retrofit the identified building for the Western Alaska Emergency Response Center; and submit to the FY15 State of Alaska Capital Improvement Project (CIP) Request to Complete the Design and Retrofit the Western Alaska Emergency Response Center for \$1.750m.

ADOPTED by the Association of Village Council Presidents during an Executive Board Meeting held at Bethel, Alaska, this 22nd day of August 2013, with a duly constituted quorum of members present.

**CERTIFIED:**

## Raymond J. Watson, Chairman



May 14, 2012

Shirley Kelly  
U.S. Economic Development Administration  
510 L Street, Suite 444  
Anchorage, AK 99501

REF: Support Letter for the AVCP Western Alaska Disaster Relief Center

Dear Ms. Kelly,

CPD Alaska fully supports the proposal developed by the Association of Village Council (AVCP) to the U.S. Economic Development Administration (EDA) to fund the Western Alaska Disaster Relief Center that will also serve as the Western Alaska VPSO Headquarters and Academy in Bethel, Alaska.

The AVCP Region consists of 56 Tribes and is approximately the size of the State of Oregon. The VPSO's are trained as the first responders to any calamity within the AVCP Region. There are currently 33 VPSOs, plus 3 Administrative staff in the region and the program is growing. In their role, these officers respond to weather-related disasters, such as flood or Tsunami, or a transportation disasters, such as an oil spill on the Kuskokwim or Yukon Rivers and their tributaries, or an aviation calamity at the village airstrips (or outside the village) or at the Bethel Airport-the third busiest airport within Alaska. Currently, there is a lack of a central point of adequate coordinated disaster relief in case of fire, flood, or any emergency for the region and this proposal would create that.

The AVCP proposes to renovate a two-story (84,000 sq ft) steel building that is adjacent to the Kuskokwim River. The estimated project cost is \$4,000,000 of which 50% would be a loan from a financial institution with the balance coming from the EDA Disaster Recovery Grant. CPD Alaska believes this is a valuable project for the region as a whole and therefore supports the AVCP Western Alaska Disaster Relief Center proposal for funding to the EDA.

Sincerely,

CPD Alaska

201 Arctic Slope Avenue  
Anchorage, Alaska 99518  
P: 907.777.5505  
[www.crowley.com](http://www.crowley.com)



May 21, 2012

Shirley Kelly

U.S. Economic Development Administration  
510 'L' Street, Suite 444  
Anchorage, AK 99501

RE: Support Letter for the AVCP Western Alaska Disaster Relief Center

Dear Ms. Kelly,

On behalf of Bethel Native Corporation's 1800 shareholders, I am writing in support of the Association of Village Council (AVCP) grant proposal to establish a central Village Public Safety Officer (VPSO) training site in Bethel. The AVCP Region is vast and challenging, with 56 tribes and villages scattered throughout Western Alaska. The villages vary in size, native dialect, religion and geography but the commonality in these villages is the overwhelming need for well-trained VPSO's.

In the majority of the Yukon-Kuskokwim Delta villages, the VPSO's are the only local law enforcement. The weight of their responsibilities and the dependence of the communities on them are great. VPSO's are expected to respond to everything from disorderly conduct and trespassing to suicides and hostage situations. Providing VPSO's a place to train and collaborate is necessary and valuable. AVCP's proposal to house this program within a regional disaster relief training facility makes perfect sense since VPSO's are and will continue to be the region's first responders.

Therefore, Bethel Native Corporation fully supports AVCP's efforts to build an in-region disaster relief training center and VPSO headquarters and academy.

Thank you,

  
 Ana Hoffman, President/CEO



CALISTA CORPORATION  
[www.calistacorp.com](http://www.calistacorp.com)

June 5, 2012

Shirley Kelly  
 U.S. Economic Development Administration  
 510 'L' Street, Suite 444  
 Anchorage, Alaska 99501

RE: AVCP Western Alaska Disaster Relief Center Support

Dear Ms. Kelly:

Calista Corporation works closely with the Association of Village Council Presidents (AVCP) on issues and projects to improve infrastructure and living conditions for people in our Yukon-Kuskokwim region. This letter of support is for AVCP's proposal to the USEDA for a Western Alaska Disaster Relief Center located in Bethel.

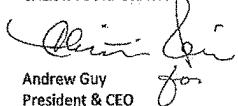
There is no central or regional center for disaster and emergency response within the entire region of 30,000 people. The proposed Disaster Relief Center will utilize an existing steel structure and provide coordination for emergencies; as well as, house the Village Public Safety Officer (VPSO) headquarters. Our region has few if any police and fire personnel; the existing 33 VPSO's serve many roles and are the first responders to nearly all emergencies and crises. Many people in the Bethel and Wade Hampton census districts live below the U.S. poverty level and the latest census data shows the region population is increasing. With increasing population comes growing needs for local emergency response capabilities.

The proposed Disaster Relief Center building will be located near the primary port of the Kuskokwim River, states 2<sup>nd</sup> busiest cargo airport, and main transportation corridors for the entire region. This site is accessible and central to 50% of the region's population; establishes combined relief and operations services to quickly respond to and handle natural weather, river, ocean, and man-made disasters; develops and returns a previously closed fish plant to effective and needed service; and leverages limited funding in an economically devastated region. AVCP proposes to utilize renovate the existing building at an estimated cost of \$4,000,000. The cost is anticipated to be funded 50% from a financial institution loan and 50% in EDA disaster recover grant funding.

We fully support AVCP's request for an EDA Disaster Recovery Grant.

Sincerely,

CALISTA CORPORATION

  
 Andrew Guy  
 President & CEO

101 Calista Court, Suite A, Anchorage, AK 99518  
 (907) 279-5518 • (1)(907) 272-5080 • [calistacorp.com](mailto:calistacorp.com)



## CITY OF BETHEL

P.O. Box 1388 • Bethel, Alaska 99558-1388  
 907-543-2047  
 Fax # 543-4171  
 Website: [www.cityofbethel.org](http://www.cityofbethel.org)

May 15, 2012

Shirley Kelly  
 U.S. Economic Development Administration  
 510 L Street, Suite 444  
 Anchorage, AK 99501

RE: Support Letter for the AVCP Western Alaska Disaster Relief Center

Dear Ms. Kelly:

The City of Bethel supports the proposal developed by the Association of Village Council (AVCP) being submitted to the U.S. Economic Development Administration (EDA) to fund the Western Alaska Disaster Relief Center that will also serve as the Western Alaska Village Patrol Safety Officer (VPSO) Headquarters and Academy in Bethel, Alaska. As the hub community for the 56-village Yukon-Kuskokwim River Delta, Bethel is the perfect place to construct the relief center.

The VPSOs are trained to serve as first responders to any emergency situation within the AVCP Region. Officers respond to weather-related disasters, such as floods or cold weather events, river transportation disasters, such as oil spills, and aviation calamities at village airstrips. There is a strong need for a centralized facility in western Alaska where AVCP can coordinate emergency disaster relief.

The AVCP proposes to renovate a two-story 84,000 sq. ft. building in Bethel, situated on Front Street, next to the Kuskokwim River. The total project cost is estimated to cost \$4,000,000. Half of the funding would come from a loan and the other half would be from an EDA Disaster Recovery Grant.

The City of Bethel believes this is a valuable project for the region as a whole and therefore supports the AVCP Western Alaska Disaster Relief Center proposal for funding to the EDA.

Sincerely,

A handwritten signature in black ink, appearing to read "Lee M. Foley".

Lee M. Foley  
 City Manager

*"Deep Sea and Transportation Center of the Kuskokwim"*

01/13/2002 21:37 9078254029

PAGE 01



**COPY**

AKIACHAK NATIVE COMMUNITY  
Akiachak Indian Reorganization Act Council  
Post Office Box 51070  
Akiachak, Alaska 99551

**RECEIVED**  
R [3/22/13] 10:00

Resolution 13-02-04

**A Resolution to support the design and construction of the western  
Alaska Emergency Response Center**

**WHEREAS,** The Akiachak Native Community (hereinafter, "Tribe") is a federally recognized Tribe for Akiachak organized pursuant to the provisions of the Indian Reorganization Act of June 18, 1934, amended to include Alaska on May 1, 1936 and subsequent amendments thereafter; and

**WHEREAS,** the COUNCIL has a clear and compelling need for economic development; and,

**WHEREAS,** the village of Akiachak is located in the Association of Village Council Presidents Region;

**WHEREAS,** the Association of Village Council Presidents is willing to dedicate a two-story unoccupied building located at the intersection of 1<sup>st</sup> Avenue and Tundra Street in Bethel, Alaska; that is easily accessible to the Kuskokwim river for the creation of a Western Alaska Disaster Relief Center that will also serve as the Western Alaska VPSO Headquarters and Academy for the whole region;

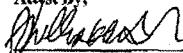
**WHEREAS,** The AVCP Village Public Safety Officer's (VPSO's) are trained as first responders to any calamity within the AVCP region;

**WHEREAS,** The continued well-being of our community and the AVCP Region in the case of weather-related disaster, such as flood or Tsunami, or a transportation disaster, such as an oil spill on the River's, or an aviation calamity at the Bethel Airport (the third busiest airport within Alaska or within the AVCP Region Village Airstrips, is at risk due to the lack of a central point of coordinated recovery services;

**NOW THEREFORE BE IT RESOLVED**, that the Akiachak Tribal Council supports the design and construction of the Western Alaska Emergency Response Center.

Passed and Approved by the constituted quorum of the Akiachak Native Community; IRA Council on this 14<sup>th</sup> Day of March, 2013 by a vote of 4 for, against, 0 Abstain and 1 Absent.

Attest By:

  
\_\_\_\_\_  
IRA Council Chairman

  
\_\_\_\_\_  
IRA Council Secretary



**ASA'CARSARMIUT TRIBAL COUNCIL**  
P.O. Box 32249  
Mountain Village, AK 99632  
Phone (907) 591-2814  
Facsimile (907) 591-2811

**Resolution No. 13-07**

**A RESOLUTION TO SUPPORT THE DESIGN AND CONSTRUCTION OF THE  
WESTERN ALASKA EMERGENCY RESPONSE CENTER**

**WHEREAS,** the Asa'carsarmiut Tribal Council is a federally recognized tribal governing body for the village of Mountain Village; and

**WHEREAS,** the COUNCIL has a clear and compelling need for economic development; and

**WHEREAS,** the village of Mountain Village is located in the Association of Village Council Presidents Region;

**WHEREAS,** the Association of Village Council Presidents is willing to dedicate a two-story unoccupied building located at the intersection of First Avenue and Tundra Street in Bethel, Alaska; that is easily accessible to the Kuskokwim River for the creation of a Western Alaska Disaster Relief Center that will also serve as the Western Alaska VPSO Headquarters and Academy for the whole region;

**WHEREAS,** The AVCP Village Public Safety Officer's (VPSO's) are trained as first responders to any calamity within the AVCP region;

**WHEREAS,** The continued well-being of our community and the AVCP Region in the case of weather-related disaster, such as flood or Tsunami, or a transportation disaster, such as an oil spill on the Rivers, or an aviation calamity at the Bethel Airport (the third busiest airport within Alaska) or within the AVCP Region Village Airstrips, is at risk due to the lack of central point of coordinated recovery services;

**NOW THEREFORE BE IT RESOLVED,** that the Asa'carsarmiut Tribal Council supports the design and construction of the Western Alaska Emergency Response Center.

03-25-13;17:58 ;From:Asa'carsarmiut T.C To:19075433369 ;5912811 # 3 / 3

**CERTIFICATION**

Passed and approved by a constituted quorum of the Asa'carsarmiut Tribal Council on this 19<sup>th</sup> day of March, 2013 with the vote of 5 in favor, 0 opposed, and 2 absent.

James C. Kerr  
James C. Landlord, 1<sup>st</sup> Chief

**ATTEST:**

Carol A. Redfox  
Carol A. Redfox, Secretary/Treasurer



**ASSOCIATION OF VILLAGE COUNCIL PRESIDENTS  
P.O. BOX 219  
BETHEL, ALASKA 99559**

**ASSOCIATION OF VILLAGE COUNCIL PRESIDENTS  
EXECUTIVE BOARD OF DIRECTORS**

BETHEL, ALASKA MARCH 5, 2013

**RESOLUTION No: 13-03-02**

**TITLE:** Western Alaska Emergency Response Center

**WHEREAS** The Association of Village Council Presidents (AVCP) is the recognized tribal organization and non-profit Alaska Native regional corporation for the fifty-six member indigenous Native villages within Western Alaska and supports the endeavors of its member villages, and

**WHEREAS** AVCP fully supports its member villages in all aspects of their self-determination, health and well-being, and

**WHEREAS** The continued well-being of the AVCP Region in the case of weather-related disaster, such as flood or Tsunami, or a transportation disaster, such as an oil spill on the Rivers, or an aviation calamity at the Bethel Airport (the third busiest airport within Alaska) or within the AVCP Region Village Airstrips, is at risk due to the lack of a central point of coordinated recovery services, and

**WHEREAS** The AVCP Village Public Safety Officer's (VPSO's) are trained as first responders to any calamity within the AVCP region, and

**WHEREAS** AVCP is willing to dedicate a two-story unoccupied building located at the intersection of First Avenue and Tundra Street, that is easily accessible to the Kuskokwim River for the creation of a Western Alaska Disaster Relief Center that will also serve as the Western Alaska VPSO Headquarters and Academy, and

NOW THEREFORE BE IT RESOLVED THAT the Association of Village Council Presidents Executive Board directs AVCP to complete the design and retrofit the identified building for the Western Alaska Emergency Response Center; and submit to the FY14 State of Alaska Capital Improvement Project (CIP) Request to Complete the Design and Build the Western Alaska Emergency Response Center for \$4,000,000.

ADOPTED by the Association of Village Council Presidents during an Executive Board Meeting held at Bethel, Alaska, this 5<sup>th</sup> day of March 2013, with a duly constituted quorum of members present.

CERTIFIED:

Raymond J. Watson, Chairman

**CROOKED CREEK TRADITIONAL COUNCIL**

P.O.BOX 69

CROOKED CREEK, ALASKA 99575

PH: 907-432-2200

FAX: 907-432-2201

EMAIL: [bbcc@starband.net](mailto:bbcc@starband.net)

RESOLUTION NO: 13-08

**A RESOLUTION TO SUPPORT THE DESIGN AND CONSTRUCTION OF THE WESTERN ALASKA EMERGENCY RESPONSE CENTER**

WHEREAS: the Crooked Creek Traditional Council is a federally recognized tribal governing body for the Village of Crooked Creek, Alaska; and;

WHEREAS; the Crooked Creek Traditional Council has a clear and compelling understanding of the need for economic development in the region; and;

WHEREAS; the Village of Crooked Creek, Alaska is located in the Association of the Village Council Presidents Region( AVCP); and

WHEREAS: the Association of Village Council Presidents is willing to dedicate a two-story unoccupied building located at the intersection of First Avenue and tundra Street in Bethel, Alaska, that is easily accessible to the Kuskokwim River for the creation of a Western Alaska Disaster Relief Center that will also serve as the Western Alaska VPSO Headquarters and Academy for the whole region; and

WHEREAS; the AVCP Village Public Safety Officer's (VPSO's) are trained as first responders to any calamity within the AVCP region; and,

WHEREAS; the continued well-being of our communities and the AVCP Region in case of weather – related disaster, such as floods or tsunami, transportation disaster, such as an oil spill on the rivers or aviation calamity at the Bethel airport( the third busiest airport within Alaska) or within the regions village airpstrips is at risk due to the lack of a central point of coordinated services

NOW, THEREFORE BE IT RESOLVED, that the Crooked Creek Traditional Council supports the design and construction of the Western Alaska Emergency Response Center.

**CERTIFICATION**

PASSED AND APPROVED BY A CONSTITUTED QUORUM BY THE CROOKED CREEK TRADITIONAL COUNCIL  
ON THIS 19<sup>TH</sup> DAY OF MARCH 2013, BY A VOTE OF 5 AYES 0 NAYS AND 0 ABSTAIN

ATTESTED BY

Evelyn Thomas

COUNCIL PRESIDENT

Bethelsha A. Thomas

SECRETARY

**Native Village of Eek****Resolution No. 13-04****A RESOLUTION TO SUPPORT THE DESIGN AND CONSTRUCTION OF THE  
WESTERN ALASKA EMERGENCY RESPONSE CENTER**

**WHEREAS**, the Native Village of Eek Is a Federally Recognized Tribe; and

**WHEREAS**, the COUNCIL has a clear and compelling need for economic development; and,

**WHEREAS**, the village of Native Village of Eek is located in the Association of Village Council Presidents Region;

**WHEREAS**, the Association of Village Council Presidents is willing to dedicate a two-story unoccupied building located at the intersection of First Avenue and Tundra Street in Bethel, Alaska; that is easily accessible to the Kuskokwim River for the creation of a Western Alaska Disaster Relief Center that will also serve as the Western Alaska VPSO Headquarters and Academy for the whole region;

**WHEREAS**, The AVCP Village Public Officer's (VPSO's) are trained as first responders to any calamity within the AVCP region;

**WHEREAS**, The continued well-being of our community and the AVCP Region in the case of weather-related disaster, such as flood or Tsunami, or a transportation disaster, such as an oil spill on the Rivers, or an aviation calamity at the Bethel Airport (the third busiest airport within Alaska) or within the AVCP Region Village Airstrips, is at risk due to the lack of a central point of coordinated recovery services;

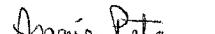
**NOW THEREFORE BE IT RESOLVED**, that the Native Village of Eek supports ANTHC's efforts in applying for the 2014 base and special projects IGAP grant from the US EPA.

**CERTIFICATION**

Adopted at a duly convened meeting of the Native Village of Eek at which a quorum was present, by a vote of 4 for, 0 against, and 0 abstained, this 14th day of February, 2013.

**ATTEST:**

  
President

  
Secretary



**HAMILTON TRIBAL COUNCIL  
P.O. BOX 20248  
KOTLIK, AK 99620-0248  
PHONE: (907) 899-4252/4255 FAX (907) 899-4202**

**RESOLUTION # 13-01**

**A RESOLUTION TO SUPPORT THE DESIGN AND CONSTRUCTION OF THE  
WESTERN ALASKA EMERGENCY RESPONSE CENTER.**

**WHEREAS**, The Hamilton Tribal Council is a federally recognized Alaska Native tribe serving its members and community of Hamilton Tribal Council; and

**WHEREAS**, the COUNCIL has a clear and compelling need for economic development; and,

**WHEREAS**, the village of Hamilton is located in the Association of Village council Presidents Region; and,

**WHEREAS**, the Association of Village Council Presidents is willing to dedicate a two-story unoccupied building located at the intersection of First Avenue and Tundra Street in Bethel, Alaska; that is easily accessible to the Kuskokwim River for the creation of a Western Alaska Disaster Relief Center that will also serve as the Western Alaska VPSO Headquarters and Academy for the whole region; and,

**WHEREAS**, The AVCP Village Public Safety Officer's (VPSO) are trained as first responders to any calamity within the AVCP region; and,

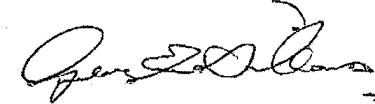
**WHEREAS**, The continued well-being of our community and the AVCP Region in the case of weather-related disaster, such as flood or Tsunami, or transportation disaster, such as an oil spill on the Rivers, or an aviation calamity at the Bethel Airport (the third busiest airport within Alaska) or within the AVCP Region Village Airstrips, is at risk due to the lack of a central point of coordinated recovery services; and,

**NOW THEREFORE BE IT RESOLVED THAT**, the Hamilton Tribal Council supports the design and construction of the Western Alaska Emergency Response Center.

**CERTIFICATION**

Adopted by the Hamilton Tribal Council during a meeting held in Kotlik, Alaska, this 20<sup>th</sup> day of June, 2013, at a duly called meeting at which a quorum was present by a vote of 3 ayes, 0 nays, 0 abstaining and 1 absents.

ATTESTED:



President- George Williams



Vice President- Rudolph Williams Jr.

Feb. 26, 2013 6:20AM

No. 1605 P. 2/2

**Traditional Council**

P.O. Box 00

*Hopper Bay*, Alaska, Zip Code  
 Phone: (907) 000-0000 Fax: (907) 000-0000

Resolution No. 13-006

**A RESOLUTION TO SUPPORT THE DESIGN AND CONSTRUCTION OF THE  
WESTERN ALASKA EMERGENCY RESPONSE CENTER**

WHEREAS, the *Hopper Bay* Traditional Council is a federally recognized tribal governing body for the village of *Hopper Bay*; and,

WHEREAS, the COUNCIL has a clear and compelling need for economic development; and,

WHEREAS, the village of *Hopper Bay* is located in the Association of Village Council Presidents Region;

WHEREAS, the Association of Village Council Presidents is willing to dedicate a two-story unoccupied building located at the intersection of First Avenue and Tundra Street in Bethel, Alaska; that is easily accessible to the Kuskokwim River for the creation of a Western Alaska Disaster Relief Center that will also serve as the Western Alaska VPSO Headquarters and Academy for the whole region;

WHEREAS, The AVCP Village Public Safety Officer's (VPSO's) are trained as first responders to any calamity within the AVCP region;

WHEREAS, The continued well-being of our community and the AVCP Region in the case of weather-related disaster, such as flood or Tsunami, or a transportation-disaster, such as an oil spill on the Rivers, or an aviation calamity at the Bethel Airport (the third busiest airport within Alaska) or within the AVCP Region Village Airstrips, is at risk due to the lack of a central point of coordinated recovery services;

NOW THEREFORE BE IT RESOLVED, that the *Hopper Bay* Traditional Council supports the design and construction of the Western Alaska Emergency Response Center.

**CERTIFICATION**

PASSED AND APPROVED BY A CONSTITUTED QUORUM OF THE IQURMIUT TRADITIONAL COUNCIL ON THIS 5<sup>th</sup> DAY OF JANUARY, 2013 BY A VOTE OF 5 FOR, 0 AGAINST AND 0 ABSTAIN. *March*

*David Bunyan*  
 Council President  
 David Bunyan

ATTEST BY

*Marcia Enday*  
 Council Secretary  
 Marcia Enday



13-03-29 10:15 Upper Kalskag Fax

9074712399 &gt;&gt; 907 543 3369 P 1/1

# Native Village of Kalskag

Traditional Council:  
 Julia Dorris, President  
 Jack Stewart, Vice President  
 Martha Evan, Secretary  
 Loreen Steeves, Member  
 Margaret Mute, Member



PO Box 50  
 Kalskag, AK 99607  
 Phone (907) 471-2207 Fax (907) 471-2399

Resolution# 2013-03-001

## A RESOLUTION TO SUPPORT THE DESIGN AND CONSTRUCTION OF THE WESTERN ALASKA EMERGENCY RESPONSE CENTER

WHEREAS, the Native Village of Kalskag Traditional Councils a federally recognized tribal governing body for the village of Kalskag; and,

WHEREAS, the COUNCIL has a clear and compelling need for economic development; and,

WHEREAS, the Association of Village Council Presidents is willing to dedicate a two-story unoccupied building located at the intersection of First Avenue and Tundra Street in Bethel, Alaska; that is easily accessible to the Kuskokwim River for the creation of a Western Alaska Disaster Relief Center that will also serve as the Western Alaska VPSO Headquarters and Academy for the whole region;

WHEREAS, The AVC Public Safety Officer's (VPSO's) are trained as first responders to any calamity within the AVC region;

WHEREAS, The continued well-being of our community and the AVC Region in the case of weather-related disaster, such as flood or Tsunami, or a transportation disaster, such as an oil spill on the Rivers, or an aviation calamity at the Bethel Airport (the third busiest airport within Alaska) or within the AVC Region Village Airstrips, is at risk due to the lack of a central point of coordinated recovery services;

NOW THEREFOR BE IT RESOLVED, that the Native Village of Kalskag Traditional Council supports the design and construction of the Western Alaska Emergency Response Center.

### CERTIFICATION

PASSED AND APPROVED BY A CONSTITUTED QUORUM OF THE NATIVE VILLAGE OF KALSKAG TRADITIONAL COUNCIL ON THIS 6<sup>TH</sup> DAY OF MARCH, 2013 BY A VOTE OF 4 FOR, 0 AGAINST AND 0 ABSTAIN.

### ATTEST BY

\_\_\_\_\_  
Council president

\_\_\_\_\_  
Council Secretary



13-04-08 12:33      Upper Kalskag Fax      9074712399 &gt;&gt;      907 543 3369 P 1/2

**NATIVE VILLAGE OF KALSKAG**

P.O. Box 50

Upper Kalskag, Alaska 99607

Phone (907) 471-2207 \* Fax (907) 471-2399

RESOLUTION NO. 2013-03-001

**A RESOLUTION TO SUPPORT THE DESIGN AND CONSTRUCTION OF THE WESTERN ALASKA  
EMERGENCY RESPONSE CENTER**

**WHEREAS**, the Upper Kalskag Traditional Council is a federally recognized tribal governing body for the village of Upper Kalskag; and,

**WHEREAS**, the COUNCIL has a clear and compelling need for economic development; and,

**WHEREAS**, the village of Upper Kalskag Traditional Council is located in the Association of Village Council Presidents Region;

**WHEREAS**, the Association of Village Council Presidents is willing to dedicate a two-story unoccupied building located at the intersection of First Avenue and Tundra Street in Bethel, Alaska; that is easily accessible to the Kuskokwim River for the creation of a Western Alaska Disaster Relief Center that will also serve as the Western Alaska VPSO Headquarters and Academy for the whole region;

**WHEREAS**, The AVCP Village Public Safety Officer's (VPSO's) are trained as first responders to any calamity within the AVCP region;

**WHEREAS**, The continued well-being of our community and the AVCP Region in the case of weather-related disaster, such as flood or Tsunami, or a transportation disaster, such as an oil spill on the Rivers, or an aviation calamity at the Bethel Airport (the third busiest airport within Alaska) or within the AVCP Region Village Airstrips, is at risk due to the lack of a central point of coordinated recovery services;

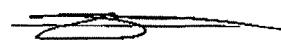
**NOW THEREFORE BE IT RESOLVED**, that the Upper Kalskag Traditional Council supports the design and construction of the Western Alaska Emergency Response Center.

2013-04-08 12:34      Upper Kalskag Fax      9074712399 >>      907 543 3369 P 2/2

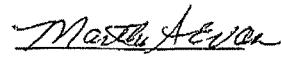
CERTIFICATION

PASSED AND APPROVED BY A CONSTITUTED QUORUM OF THE UPPER KALSKAG TRADITIONAL COUNCIL ON THIS 6TH DAY OF MARCH, 2013 BY A VOTE OF (4) FOR, (0) AGAINST AND (0) ABSTAIN

ATTESTED BY:



Julia F. Dorris, President



Martha Evan, Secretary



<b>KTC</b>	<b>Kasigluk Traditional Council</b> Post Office Box 19 Kasigluk, Alaska 99609 Ph: (907) 477-6405 / 6406 Fax: (907) 477-6212 E-mail: <a href="mailto:kasigluk.admin@gmail.com">kasigluk.admin@gmail.com</a>
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**RESOLUTION #13-07**

[Support for Design and Construction of Western Alaska Emergency Response Center]

Whereas; the Kasigluk Traditional Council is a federally recognized tribal governing body for the Native Village of Kasigluk; and

Whereas; KTC has a clear and compelling need for economic development; and

Whereas; the Native Village of Kasigluk is located in the Association of Village Council Presidents Region; and

Whereas; the Association of Village Council Presidents is willing to dedicate a two-story unoccupied building located at the intersection of First Avenue and Tundra Street in Bethel, Alaska; that is easily accessible to the Kuskokwim River for the creation of a Western Alaska VPSO Headquarters and Academy for the whole regions; and

Whereas; the AVCP Village Public Safety Officer's (VPSO's) are trained as first responders to any calamity within the AVCP Region; and

Whereas; the continued well-being of our community and the AVCP Region in the case of weather-related disaster, such as flood or tsunami, or a transportation disaster, such as an oil spill on the Rivers, or an aviation calamity at the Bethel Airport (*the third busiest airport within Alaska*) or within the AVCP Region Village Airports, is at risk due to the lack of a central point of coordinated recovery services;

NOW THEREFORE BE IT RESOLVED that the Kasigluk Traditional Council supports the design and construction of the Western Alaska Emergency Response Center.

**CERTIFICATION**

PASSED AND APPROVED BY A CONSTITUTED QUORUM OF THE KASIGLUK TRADITIONAL COUNCIL ON THIS 8 TH DAY OF April, 2013 BY A VOTE OF 6 FOR; 0 AGAINST AND 1 ABSTAINING.

**ATTESTED BY**

*Lucy Kassel* *Elsie Nicholas*  
Lucy Kassel, President Elsie Nicholas, Secretary



FROM :

FAX NO. : 9078965240

Mar. 12 2013 12:33PM P 2

**NATIVE VILLAGE OF KIPNUK  
KIPNUK TRADITIONAL COUNCIL**  
P.O. Box 57 • KIPNUK, ALASKA 99614  
(907) 896-5515 • FAX (907) 896-5240

**Resolution No. 2013-001**

**A RESOLUTION TO SUPPORT THE DESIGN AND CONSTRUCTION OF THE  
WESTERN ALASKA EMERGENCY RESPONSE CENTER**

**WHEREAS**, the Kipnuk Traditional Council is a federally recognized tribal governing body for the Native Village of Kipnuk; and,

**WHEREAS**, the Kipnuk Traditional Council has a clear and compelling need for economic development; and,

**WHEREAS**, the Native Village of Kipnuk is located in the Association of Village Council Presidents Region;

**WHEREAS**, the Association of Village Council Presidents is willing to dedicate a two-story unoccupied building located at the intersection of First Avenue and Tundra Street in Bethel, Alaska; that is easily accessible to the Kuskokwim River for the creation of a Western Alaska Disaster Relief Center that will also serve as the Western Alaska VPSO Headquarters and Academy for the whole region;

**WHEREAS**, The AVCP Village Public Safety Officer's (VPSO's) are trained as first responders to any calamity within the AVCP region;

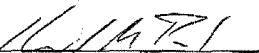
**WHEREAS**, The continued well-being of our community and the AVCP Region in the case of weather-related disaster, such as flood or Tsunami, or a transportation disaster, such as an oil spill on the Rivers, or an aviation calamity at the Bethel Airport (the third busiest airport within Alaska) or within the AVCP Region Village Airstrips, is at risk due to the lack of a central point of coordinated recovery services;

**NOW THEREFORE BE IT RESOLVED**, that the Kipnuk Traditional Council supports the design and construction of the Western Alaska Emergency Response Center.

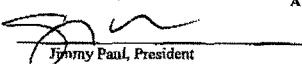
**CERTIFICATION**

**PASSED AND APPROVED BY A CONSTITUTED QUORUM OF THE KIPNUK TRADITIONAL  
COUNCIL ON THIS 26<sup>TH</sup> DAY OF FEBRUARY, 2013 BY A VOTE OF 6 FOR, 0 AGAINST AND 0  
ABSTAIN.**

ATTEST BY



Howard Paul, Secretary



Jimmy Paul, President

**NATIVE VILLAGE OF KWIGILLINGOK**

Kwigillingok I.R.A. Council  
 P.O. Box 90  
 Kwigillingok, Alaska 99622-0090  
 Phone: (907)588-8114/8212  
 Fax: (907)588-8429

**RESOLUTION NO. 03-127-13****A RESOLUTION TO SUPPORT THE DESIGN AND CONSTRUCTION OF THE  
WESTERN ALASKA EMERGENCY REPSONSE CENTER**

**WHEREAS**, the Kwigillingok I.R.A. Council is a federally recognized tribal governing body for the Native Village of Kwigillingok; and,

**WHEREAS**, the COUNCIL has a clear and compelling need for economic development; and,

**WHEREAS**, the Native Village of Kwigillingok is located in the Association of Village Council Presidents Region;

**WHEREAS**, the Association of Village Council Presidents is willing to dictate a two-story unoccupied building located at the intersection of First Avenue and Tundra Street in Bethel, Alaska; that is easily accessible to the Kuskokwim River for the creation of a Western Alaska Disaster Relief Center that will also serve as the Western Alaska VPSO Headquarters and Academy for the whole region;

**WHEREAS**, The AVCP Village Public Safety Officer's (VPSO's) are trained as first Responders to any calamity within the AVCP region;

**WHEREAS**, The continued well-being of our community and the AVCP Region in the case of weather-related disaster, such as flood or Tsunami, or a transportation disaster, such as an oil spill on the Rivers, or an aviation calamity at the Bethel Airport (the third busiest airport within Alaska) or within the AVCP Region Village Airstrips, is at risk due to the lack of a central point of coordinated recovery services;

**NOW THEREFORE BE IT RESOLVED**, that the Kwigillingok I.R.A. Council supports the design and construction of the Western Alaska Emergency Response Center.

**CERTIFICATION**

PASSED AND APPROVED BY A CONSTITUTED QUORUM OF THE  
**KWIGILLINGOK I.R.A. COUNCIL ON THIS 8<sup>th</sup> DAY OF MARCH 7, 2013**  
 BY A VOTE OF 3 FOR, 0 AGAINST AND 0 ABSTAIN.

ANTHONY J. PHILLIP, PRESIDENT

ATTEST BY

LILLY CARTER, SECRETARY

**COPY**

**ORGANIZED VILLAGE OF KWETHLUK**  
**Kwethluk Indian Reorganization Act Council**  
**P.O. Box 130 - 147 Jay Hammond Way, Kwethluk, AK 99621**  
**Phone: (907) 757-6714/6715, Fax: (907) 757-6328, Email: kwira@unicom-alaska.com**

**Resolution No. 13-04-08**

**A RESOLUTION TO SUPPORT THE DESIGN AND CONSTRUCTION OF THE WESTERN ALASKA  
EMERGENCY RESPONSE CENTER**

**WHEREAS**, The Kwethluk IRA Council is a federally recognized tribal governing body for the village of Kwethluk; and,

**WHEREAS**, The COUNCIL has a clear and compelling need for economic development; and,

**WHEREAS**, The village of Kwethluk is located in the Association of Village Council Presidents Region;

**WHEREAS**, The Association of Village Council Presidents is willing to dedicate a two-story unoccupied building located at the intersection of First Avenue and Tundra Street in Bethel, Alaska; that is easily accessible to the Kuskokwim River for the creation of Western Alaska Disaster Relief Center that will also serve as the Western Alaska Village Police Safety Officer Headquarters and Academy for the whole region;

**WHEREAS**, The Association of Village Council Presidents Village Public Safety Officer's (VPSO's) are trained as first responders to any calamity within the Association of Village Council Presidents region;

**WHEREAS**, The continued well-being of our community and the Association of Village Council Presidents Region in the case of weather-related disaster, such as flood or Tsunami, or a transportation disaster, such as an oil spill on the Rivers, or an aviation calamity at Bethel Airport (the third busiest airport within Alaska) or within Association of Village Council Presidents Region Village Airstrips, is at risk due to the lack of a central point of coordinated recovery service;

**NOW THEREFORE BE IT RESOLVED**, that the Kwethluk IRA Counceil supports the design and construction of the Western Alaska Emergency Response Center.

**CERTIFICATION**

**PASSED AND APPROVED BY A CONSTITUTION QUORUM OF THE KWETHLUK IRA COUNCIL  
ON THIS 08<sup>th</sup> DAY OF APRIL, 2013 BY A VOTE OF 4 FOR, 0 AGAINST, AND 0 ABSTAIN.**

**ATTEST BY**

Martn Andrew  
 Martin Andrew, President

Christine Guy  
 Christine Guy, Secretary

MAR-15-2013 09:55 From:NATIVE VILLAGE MYU 9078278133

To:19075433596

P.2/2

**NATIVE VILLAGE OF MEKORYUK**

Indian Reorganization Act Council  
 P.O. Box 66 • Mekoryuk, Alaska 99630  
 (907) 827-8828 • Fax: (907) 827-8133

**Resolution No. 2013-002****A RESOLUTION TO SUPPORT THE DESIGN AND CONSTRUCTION OF THE  
WESTERN ALASKA EMERGENCY RESPONSE CENTER**

**WHEREAS**, the Native Village of Mekoryuk (NVM) Tribal Council is a federally recognized tribal governing body for the village of Mekoryuk; and,

**WHEREAS**, the NVM TRIBAL COUNCIL has a clear and compelling need for economic development; and,

**WHEREAS**, the village of Mekoryuk is located in the Association of Village Council Presidents (AVCP) Region;

**WHEREAS**, the AVCP is willing to dedicate a two-story unoccupied building located at the intersection of First Avenue and Tundra Street in Bethel, Alaska; that is easily accessible to the Kuskokwim River for the creation of a Western Alaska Disaster Relief Center that will also serve as the Western Alaska Village Public Safety Officer (VPSO) Headquarters and Academy for the whole region;

**WHEREAS**, the AVCP VPSO's are trained as first responders to any calamity within the AVCP region;

**WHEREAS**, the continued well-being of our community and the AVCP Region in the case of weather-related disaster, such as flood or Tsunami, or a transportation disaster, such as an oil spill on the Rivers, or an aviation calamity at the Bethel Airport (the third busiest airport within Alaska) or within the AVCP Region Village Airstrips, is at risk due to lack of a central point of coordinated recovery services;

**NOW THEREFORE BE IT RESOLVED**, that the NVM Tribal Council supports the design and construction of the Western Alaska Emergency Response Center.

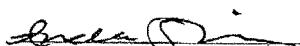
**CERTIFICATION**

PASSED AND APPROVED BY THE CONSTITUTED QUORUM OF THE NATIVE VILLAGE OF MEKORYUK TRIBAL COUNCIL THIS 14<sup>th</sup> DAY OF MARCH, 2013.

WITH A VOTE OF 5 YEAS 0 NEAS 1 ABSENT AND 1 ABSTAINED.

**ATTESTED**

  
 Albert R. Williams, NVM Council President

  
 Amanda Shavings, NVM Council Secretary

**PAST PRESIDENTS**

Moses Nayruk • Peter Smith, Sr. • Tom Dotomain • Jesse Moses • Walter Amos • George K. Whitman, Sr.  
 Edward J. Shavings, Sr. • George King, Sr. • Henry J. Shavings • Joseph David, Sr. • Jerry David, Sr.  
 Fred Don • Howard T. Amos • Sameon Weston • Hultman Kiokun  
 Tom Amos • Solomon Williams • Daniel Oirun, Sr.



MAR-08-2013 10:59 From:

To: 19075433369

Page: 1/2

Native Village of Napakiak  
IRA Council  
P.O. Box 34069  
Napaklak, Ak. 99634  
Ph. (907) 589-2135 Fax (907) 589-2136

Resolution #2013-03

**A RESOLUTION TO SUPPORT THE DESIGN AND CONSTRUCTION OF THE WESTERN ALASKA  
EMERGENCY RESPONSE CENTER**

WHEREAS, the Napakiak Traditional Council is a federally recognized tribal governing body for the village of Napakiak; and,

WHEREAS, the COUNCIL has a clear and compelling need for economic development; and

WHEREAS, the village of Napakiak is located in the Association of Village Council Presidents Region;

WHEREAS, the Association of Village Council Presidents is willing to dedicate a two-story unoccupied building located at the intersection of First Avenue and Tundra Street in Bethel, Alaska; that is easily accessible to the Kuskokwim River for the creation of a Western Alaska VPSO Headquarters and Academy for the whole region;

WHEREAS, the AVCP Village Public Safety Officer's (VPSO's) are trained as first responders to any calamity within the AVCP region;

WHEREAS, The continued well-being of our community and the AVCP Region in the case of weather-related disaster, such as flood or Tsunami, or a transportation disaster, such as oil spill on the Rivers, or an aviation calamity at the Bethel Airport (the third busiest airport within Alaska) or within the AVCP Region Village Airstrips, is at risk due to the lack of a center point of coordinated recovery services;

NOW THEREFORE BE IT RESOLVED, that the Napakiak Traditional Council supports the design and construction of the Western Alaska Emergency Response Center.

MAR-08-2013 10:59 From:

To:19075433369

Page:2/2

## CERTIFICATION

PASSED AND APPROVED BY A CONSTITUTED QUORUM OF THE NAPAKIAK TRADITIONAL COUNCIL ON THE 7<sup>th</sup> DAY OF MARCH, 2013 BY A VOTE OF 4 FOR, 0 AGAINST AND 0 ABSTAIN.

ATTEST BY

Jacole N. Black  
Council President

Suzie S. Andrew  
Council Secretary



**NAPASKIAK TRIBAL COUNCIL**  
 P.O. Box 6009  
 Napaskiak, Alaska 99559  
 (907) 737-7364 • Fax (907) 737-7039

Resolution No. 3-14-13-E

**A RESOLUTION TO SUPPORT THE DESIGN AND CONSTRUCTION OF THE  
 WESTERN ALASKA EMERGENCY RESPONSE CENTER**

**WHEREAS**, the Napaskiak Tradition Council is a federally recognized tribal governing body for the village of Napaskiak; and,

**WHEREAS**, the COUNCIL has a clear and compelling need for economic development; and,

**WHEREAS**, the village of Napaskiak is located in the Association of village Council Presidents Region;

**WHEREAS**, the Association of Village Council Presidents is willing to dedicate a two-story unoccupied building located at the intersection of First Avenue and Tundra Street in Bethel, Alaska; that is easily accessible to the Kuskokwim River for the creation of a Western Alaska Disaster Relief Center that will also serve as the Western Alaska VPSO Headquarters and Academy for the whole region;

**WHEREAS**, the AVCP Village Public Safety Officer's (VPSO's) are trained as first responders To any calamity within the AVCP region;

**WHEREAS**, the continued well-being of our community and the AVCP Region in the case of weather-related disasters, such as flood or Tsunami, or a transportation disaster, such as an oil spill on the Rivers, or an aviation calamity at the Bethel Airport (the third busiest airport within Alaska) or within the AVCP Region Village Airstrips, is at risk due to the lack of a central point of coordinated recovery services;

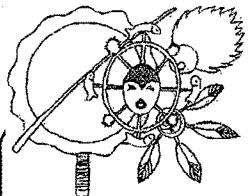
**NOW THEREFORE BE IT RESOLVED**, that the Napaskiak Tribal Council supports the design and construction of the Western Alaska Emergency Response Center.

**CERTIFICATION**

THIS RESOLUTION WAS PASSED AND APPROVED BY A CONSTITUTED QUORUM OF THE NAPASKIAK TRIBAL COUNCIL ON THIS 14 DAY OF March 2013, BY THE VOTE OF 3 FOR, 0 AGAINST, AND 0 ABSTAIN.

Chief Earl Samuelson Sr.

Secretary Sharon Williams



## Nunakauyak Traditional Council

*"The Governing Body for the Nunakauyarmiut Tribe"*

Resolution 2013-03-00-L

### A RESOLUTION TO SUPPORT THE DESIGN AND CONSTRUCTION OF THE WESTERN ALASKA EMERGENCY RESPONSE CENTER

**Whereas**, the Nunakauyak Traditional Council is a federally recognized Tribal Governing body for the village of Toksook Bay; and

**Whereas**, the COUNCIL has a clear and compelling need for economic development; and

Whereas, the village of Toksook Bay is located in the Association of Village Council President Region;

**Whereas**, the Association of Village Council President is willing to dedicate a two story unoccupied building located at the intersection of first avenue and tundra street in Bethel, Alaska; that is easily accessible to the Kuskokwim River for the creation of a western Alaska Disaster Relief Center for the whole region;

**Whereas**, the AVCP village Public Safety's Officer's (VPSO) are trained as first responders to any calamity within the AVCP region;

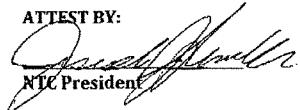
**Whereas**, the continues well-being of our community and the AVCP Region in the case of weather-related disaster, such as flood or Tsunami, or a transportation disaster, such as an oil spill on the rivers, or an aviation calamity at the Bethel Airport, (the third busiest airport within Alaska) or within the AVCP Region Village Airstrips, is at risk due to the lack of a central point of coordinated recovery services;

NOW THEREFORE BE IT RESOLVED, that the Nunakauyarmiut Traditional Council supports the design and construction of the Western Alaska Emergency Response Center.

#### CERTIFICATION

PASSED AND APPROVED BY A CONSTITUENT QUORUM OF THE NUNAKAUYAK TRADITIONAL COUNCIL IN THIS 5 DAY OF MARCH, 2013 BY A VOTE OF 6 FOR, 0 AGAINST  
AND 0 ABSTAIN.

ATTEST BY:

  
NTC President

  
NTC Secretary



**NATIVE VILLAGE OF NUNAM IQUA**

Nunam Iqua Traditional Council  
 P.O. Box 27  
 Nunam Iqua, AK 99666  
 Phone: (907) 498-4184 Fax: (907) 498-4185  
 Email: [nunamiribc@gmail.com](mailto:nunamiribc@gmail.com)

Resolution 13-07

A RESOLUTION TO SUPPORT THE DESIGN AND CONSTRUCTION OF THE WESTERN ALASKA EMERGENCY RESPONSE CENTER

WHEREAS, the Nunam Iqua Traditional Council is a federally recognized tribal governing body for the village of Nunam Iqua; and

WHEREAS, the COUNCIL has a clear and compelling need for economic development; and,

WHEREAS, the village of Nunam Iqua is located in the Association of Village Council Presidents Region; and

WHEREAS, the Association of Village Council Presidents is willing to dedicate a two-story unoccupied building located at the intersection of First Avenue and Tundra Street in Bethel, Alaska; that is easily accessible to the Kuskokwim River for the creation of a Western Alaska Disaster Relief Center that will also serve as the Western Alaska VPSO Headquarters and Academy for the whole region; and

WHEREAS, The AVCP Village Public Safety Officer's (VPSO's) are trained as first responders to any calamity within the AVCP region;

WHEREAS, The continued well-being of our community and the AVCP Region in the case of weather-related disaster, such as flood or Tsunami, or a transportation disaster, such as an oil spill on the Rivers, or an aviation calamity at the Bethel Airport (the third busiest airport within Alaska) or within the AVCP Region Village Airstrips, is at risk due to the lack of a central point of coordinated recovery services; and

NOW THEREFORE BE IT RESOLVED, that the Nunam Iqua Traditional Council supports the design and construction of the Western Alaska Emergency Response Center.

CERTIFICATION

PASSED AND APPROVED BY A CONSTITUTED QUORUM OF THE NUNAM IQUA TRADITIONAL COUNCIL ON THIS 5<sup>th</sup> DAY OF March, 2013 BY A VOTE OF 3 FOR, 0 AGAINST AND 0 ABSTAINING.

Edward Adams Sr.  
 Tribal Council President

Joseph Strongheart Sr.  
 Tribal Council Secretary

**Native Village of Nunapitchuk**  
 Nunapitchuk IRA Council  
 P.O. Box 130  
 Nunapitchuk, Alaska 99641  
 Phone (907) 527-5705; Fax (907) 527-5711

**Resolution No. 13-03-01**

**A RESOLUTION TO SUPPORT THE DESIGN AND CONSTRUCTION OF THE  
 WESTERN ALASKA EMERGENCY RESPONSE CENTER**

WHEREAS, the Native Village of Nunapitchuk is a federally recognized tribal governing body for the village of Nunapitchuk; and,

WHEREAS, the COUNCIL has a clear and compelling need for economic development; and,

WHEREAS, the village of Nunapitchuk is located in the Association of Village Council Presidents Region;

WHEREAS, the Association of Village Council Presidents is willing to dedicate a two-story unoccupied building located at the intersection of First Avenue and Tundra Street in Bethel, Alaska; that is easily accessible to the Kuskokwim River for the creation of a Western Alaska VPSO Headquarters and Academy for the whole region;

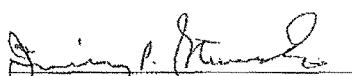
WHEREAS, The AVCP Village Public Safety Officer's (VPSO's) are trained as first responders to any calamity within the AVCP region;

WHEREAS, The continued well-being of our community and the AVCP Region in the case of weather-related disaster, such as flood or Tsunami, or a transportation disaster, such as an oil spill on the Rivers, or an aviation calamity at the Bethel Airport (the third busiest airport within Alaska) or within the AVCP Region Village Airstrips, is at risk due to the lack of a central point of coordinated recovery services;

NOW THEREFORE BE IT RESOLVED, that the Nunapitchuk IRA Council supports the design and construction of the Western Alaska Emergency Response Center.

**CERTIFICATION**

The foregoing resolution was adopted by the Native Village of Nunapitchuk at a duly called meeting of the tribal council by a vote of 6 ayes, 0 nays, 0 abstaining, and 1 excused on the 12<sup>th</sup> day of March, 2013.

  
 Shirley P. Stevens  
 President

  
 Elaine C. Andrew  
 Secretary



Pitka's Point Village Council  
 P.O.Box 127  
 St. Mary's, Ak 99658  
 Ph: (907) 438-2833 Fax: (907) 438-2569

## RESOLUTION NO. 13-03-01

**A RESOLUTION TO SUPPORT THE DESIGN AND CONSTRUCTION OF THE WESTERN ALASKA EMERGENCY RESPONSE CENTER**

WHEREAS, the Pitka's Point Tribal Council is a federally recognized tribal governing body for the village of Pitka's Point, Alaska; and

WHEREAS, the COUNCIL has a clear and compelling need for economic development; and,

WHEREAS, the village of Pitka's Point is located in the Association of Village Council Presidents Region;

WHEREAS, the Association of Village Council Presidents is willing to dedicate a two-story unoccupied building located at the intersection of First Avenue and Tundra Street in Bethel, Alaska: that is easily accessible to the Kuskokwim River for the creation of a Western Alaska Disaster Relief Center that will also serve as the Western Alaska VPSO Headquarter and Academy for the whole region;

WHEREAS, The AVCP Village Public Safety Officer's (VPSO) are trained as first responders to any calamity within the AVCP region;

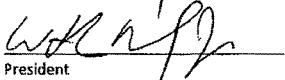
WHEREAS, The continued well-being of our community and the AVCP Region in the case of weather-related disaster, such as flood or Tsunami, or a transportation disaster, such as an oil spill on the Rivers, or an aviation calamity at the Bethel Airport (the third busiest airport within Alaska) or within the AVCP Region Village Airstrips, is at risk due to the lack of a central point of coordinated recovery services;

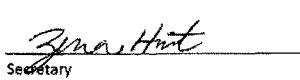
**NOW THEREFORE BE IT RESOLVED** that the Pitka's Point Tribal Council supports the design and construction of the Western Alaska Emergency Response Center.

## CERTIFICATION

PASSED AND APPROVED BY A CONSTITUTED QUORUM OF THE PITKA'S POINT TRIBAL COUNCIL ON THIS 13 DAY OF MARCH, 2013 BY A VOTE OF 5 FOR, 0 AGAINST AND 0 ABSTAIN.

## ATTESTED BY

  
 President

  
 Secretary



Mar 14 2013 3:10PM HP LASERJET FAX

p. 1

Tuluksak Native Community  
P.O. Box 95  
Tuluksak, AK 99679  
907-695-6420 ~ 907-695-6932

**RESOLUTION NO. 13-03-01**

**A RESOLUTION TO SUPPORT THE DESIGN AND CONSTRUCTION OF THE WESTERN ALASKA EMERGENCY RESPONSE CENTER**

**WHEREAS**, the Tuluksak Native Community is a federally recognized governing body for the village of Tuluksak; and,

**WHEREAS**, the Community has a clear and compelling need for economic development; and,

**WHEREAS**, the village of Tuluksak is located in the Association of Village Council Presidents Region;

**WHEREAS**, the Association of Village Council Presidents is willing to dedicate a two-story unoccupied building located at the intersection of First Avenue and Tundra Street in Bethel, Alaska; that is easily accessible to the Kuskokwim River for the creation of a Western Alaska Disaster Relief Center that will also serve as the Western Alaska VPSO Headquarters and Academy for the whole region;

**WHEREAS**, The AVCP Village Public Safety Officer's (VPSO's) are trained as first responders to any calamity within the AVCP region;

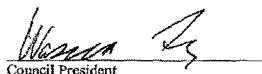
**WHEREAS**, The continued well-being of our community and the AVCP Region in the case of weather-related disaster, such as flood or Tsunami, or a transportation disaster, such as an oil spill on the Rivers, or an aviation calamity at the Bethel Airport (the third busiest airport within Alaska) or within the AVCP Region Village Airstrips, is at risk due to the lack of a central point of coordinated recovery services;

**NOW THEREFORE BE IT RESOLVED**, that the Tuluksak Native Community supports the design and construction of the Western Alaska Emergency Response Center.

**CERTIFICATION**

PASSED AND APPROVED BY A CONSTITUTED QUORUM OF THE TULUKSAK NATIVE COMMUNITY ON THIS 14<sup>th</sup> DAY OF MARCH, 2013 BY A VOTE OF 5 FOR, 0 AGAINST AND 0 ABSTAIN.

**ATTEST BY**



Werner Ty  
Council President



Margaret Andrew  
Council Secretary

**Tuntutuliak Traditional Council  
P.O. Box 8086  
Tuntutuliak, AK 99680**

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**Phone: (907) 256-2128  
Fax: (907) 256-2080**

**Resolution No. 13-03-01**

**A RESOLUTION TO SUPPORT THE DESIGN AND CONSTRUCTION OF THE  
WESTERN ALASKA EMERGENCY RESPONSE CENTER**

**WHEREAS, the Tuntutuliak Traditional Council is a federally recognized tribal governing body for the village of Tuntutuliak; and,**

**WHEREAS, the COUNCIL has a clear and compelling need for economic development; and,**

**WHEREAS, the Association of Village Council Presidents is willing to dedicate a two-story unoccupied building located at the intersection of First Avenue and Tundra Street in Bethel, Alaska; that is easily accessible to the Kuskokwim River for the creation of a Western Alaska Disaster Relief Center that will also serve as the Western Alaska Disaster Relief Center that will also serve as the Western Alaska VPSO Headquarters and Academy for the whole region;**

**WHEREAS, The AVCP Village Public Safety Officer's (VPSO's) are trained as first responders to any calamity within the AVCP region;**

**WHEREAS, The continued well-being of our community and the AVCP Region in the case of weather-related disaster, such as flood or Tsunami, or a transportation disaster, such as an oil spill on the Rivers, or an aviation calamity at the Bethel Airport (the third busiest airport within Alaska) or within the AVCP Region Village**

04-11-13;05:07PM;

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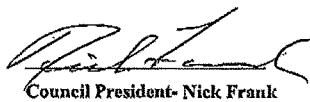
Airstrips, is at risk due to the lack of a central point of coordinated recovery services;

NOW THEREFORE BE IT RESOLVED, that the Tuntutuliak Traditional Council supports the design and construction of the Western Alaska Emergency Response Center.

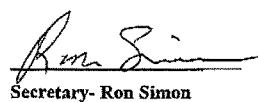
**CERTIFICATION**

PASSED AND APPROVED BY A CONSTITUTED QUORUM OF THE  
TUNTUTULIAK TRADITIONAL COUNCIL ON THIS 9<sup>th</sup> DAY OF APRIL,  
2013 BY A VOTE OF 3 FOR, 0 AGAINST AND 0 ABSTAIN.

**ATTEST BY**



Council President- Nick Frank



Secretary- Ron Simon

Umkumiut Tribal Council, P.O. Box 90062, Nighthmute, Alaska 99690

Phone: 907-647-6145 Fax: 907-647-6146

Resolution No. 02-13-13

**A RESOLUTION TO SUPPORT THE DESIGN AND CONSTRUCTION OF THE WESTERN ALASKA  
EMERGENCY RESPONSE CENTER.**

WHEREAS, The Umkumiut Tribal Council is a federally recognized tribal governing body for the village of Umkumiut; and,

WHEREAS, the COUNCIL has a clear and compelling need for economic development; and,

WHEREAS, the Association of Village Council Presidents is willing to dedicate a two-store unoccupied building located at the intersection of First Avenue and Tundra Street in Bethel, Alaska; that is easily accessible to the Kuskokwim River for the creation of a Western Alaska Disaster Relief Center that will also serve as the Western Alaska VPSO Headquarters and Academy for the whole region;

WHEREAS, The AVCP Village Public Safety Officer's (VPSO) are trained as first responders to any calamity within the AVCP region;

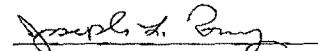
WHEREAS, The continued well-being of our community and the AVCP Region in the case of weather-related disaster, such as flood or Tsunami, or a transportation disaster, such as an oil spill on the Rivers, or an aviation calamity at the Bethel Airport (the third busiest airport within Alaska) or within the AVCP Region Village Airstrips, is at risk due to the lack of a central point of coordinated recovery service;

NOW THEREFORE BE IT RESOLVED, that the Umkumiut Tribal Council supports the design and construction of the Western Alaska Emergency Response Center.

CERTIFICATION

PASSED AND APPROVED BY A CONSTITUTED QUORUM OF THE UMKUMIUT TRIBAL COUNCIL ON THIS 4 DAY OF MARCH, 2013 A VOTE OF 5 FOR, 0 AGAINST AND 0 ABSTAIN.

ATTEST BY



Joseph Tony, President



Mary McLean

Council Secretary

**Post-Hearing Questions for the Record**  
**Submitted to Thomas Ravens**  
**From Senator Mark Begich**

**"Extreme Weather in Alaska: State and Federal Response to Imminent Disasters in the Arctic"**  
**September 13, 2013**

- 1. How has storm surge modeling evolved over the years and what factors make Alaska's modeling unique?*

**Ravens response:**

*How has storm surge modeling evolved?*

Storm surge modeling is done for two purposes and in two ways: first, we do storm surge modeling to study historic storm events and their impacts; second, we do storm surge modeling to forecast storm surge in real time. The later type of model is referred to as an "operational" model. Generally, the same types of models are used for both applications. Here, I will assume the interest is in storm surge modeling in real time for forecasting purposes.

Currently, there are two operational extra-tropical storm surge models which are run on NOAA's National Center for Environmental Prediction Center's (NCEP) central computing system. (NOAA, [http://www.opc.ncep.noaa.gov/coastal\\_guidance.shtml](http://www.opc.ncep.noaa.gov/coastal_guidance.shtml)). NCEP is within the National Weather Service (NWS). In the Gulf of Mexico and on the East Coast, NCEP is operating ESTOFS to provide Storm Surge Guidance. ESTOFS uses the storm surge model ADCIRC and provides real time data and forecasts of water surface elevation accounting for astronomical tides, barometric tides (change in water level due to air pressure), surge due to surface wind stress, and surge due to the Coriolis effect. This storm surge model is relatively advanced.

On the US West Coast including the Gulf of Alaska, the Bering Sea, and the Chukchi Sea, NCEP is operating ET-SURGE (Extra-Tropical Surge model). ET-SURGE is producing output for the US East Coast though those results are not used for forecasting. This model is thought to be not as sophisticated as the ESTOFS model. According to Aimee Fish (NWS, Alaska), there are plans to expand the domain of the ESTOFS storm surge model in 2014. The expanded model would cover the CONUS West Coast and the Gulf of Alaska (but not the Bering and Chukchi Seas).

The ET-SURGE model runs operationally on NCEP's central computing system four times daily out to 96 hours producing numerical storm surge guidance for extra-tropical systems. The model is forced by real time output of winds and pressures from the NCEP Global Forecast System (GFS, from [http://www.opc.ncep.noaa.gov/et\\_surge/et\\_surge\\_info.shtml](http://www.opc.ncep.noaa.gov/et_surge/et_surge_info.shtml)). The GFS is itself a modeling system that generates meteorological forcing data for ET-SURGE.

The ET-SURGE model is a variation on the National Weather Services' Sea, Lake and Overland Surges from Hurricanes (SLOSH; Jelesnianski, Chen, and Shaffer, 1992) model which is used for hurricane storm surge forecasting (from: [http://www.opc.ncep.noaa.gov/et\\_surge/](http://www.opc.ncep.noaa.gov/et_surge/)

*et\_surge\_info.shtml*). One obvious drawback of the ET-SURGE model (as it is used operationally) is that it does not account for tides in its internal computations. Instead, tides are added “after the fact” at selected stations. Figure 1 (below) shows output from the ET-SURGE model. Note, only the West Coast output is used operationally.

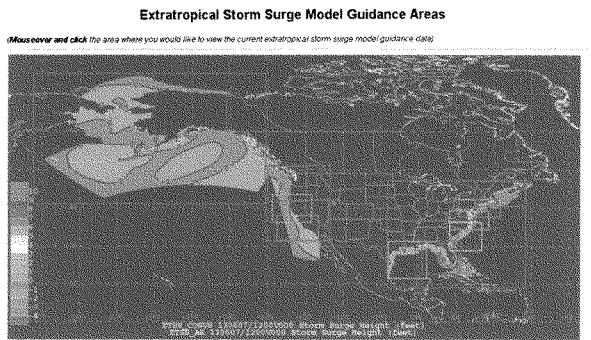


Figure 1. Snapshot of storm surge output (ft) from the ET-SURGE model (also referred to as the ETSS model, from: [http://www.opc.ncep.noaa.gov/et\\_surge/et\\_surge\\_info.shtml](http://www.opc.ncep.noaa.gov/et_surge/et_surge_info.shtml)).

For the West and Arctic coasts of Alaska, there are 22 locations at which the combination (sum) of storm surge and tides is provided to forecasters (Figure 2):

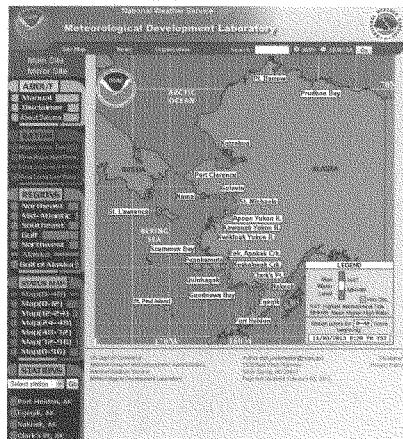


Figure 2. Graphic showing the 22 Alaska West Coast and Arctic coast stations at which water level forecasts based on the ET-SURGE model and based on tide predictions is provided.

Figure 3 (below) is an example (from Nome) of the type of data that is generally available to NWS forecasters in West and Arctic coasts of Alaska at the 22 stations. However, real time water level observations (shown in the example) are only available at three stations (Nome, St. Paul and Prudhoe Bay). The line in brown (“surge guidance”) is output from the ET-SURGE model at Nome, AK. The blue line is the tide prediction which is based on an independent analysis of historic water level data. The red line is the observed water level (again, available at only the Nome, St. Paul and Prudhoe Bay stations). The green line is the anomaly (observation – water level prediction), which is very useful to forecasters as it gives guidance about how much confidence to have in the forecast of water level (surge and tides). As it happens, there was a small storm surge on Nov. 2, 2013 (yesterday) which peaked at about 1.6 m above mean sea level. The anomaly was as much as 1.1 m on November 2.

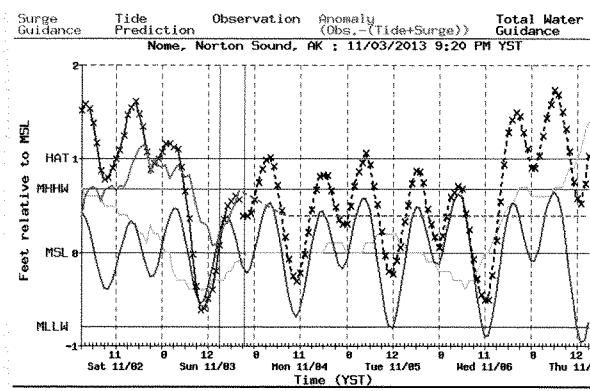


Figure 3. Screen shot (from NWS Meteorological Development Lab (MDL) website) showing forecasted surge and tide (which would be summed to produce the water level forecast (shown in black for the “forecast”)) as well as water level observation and the anomaly (shown in red).

#### *What factors make Alaska's situation unique?*

There are several factors that make Alaska's situation unique. First, Alaska is generally a “data poor” area. For example, NOAA bathymetric (water depth) data in Alaska is generally of a poorer quality than it is in the Lower 48. In many areas, there is little or no data, or the data was collected a long time ago (e.g., 1920's in False Pass Alaska). Sometimes, there are other sources of bathymetric data that we can use to supplement what is available from NOAA. The poor performance of the storm surge prediction in the Nome example (Figure 3) may have resulted from poor quality bathymetric data.

A second factor making Alaska unique is the relatively shallow water offshore of Western Alaska. Shallow water (or beach profiles with low slopes) causes storm surges – from a given meteorological event - to be relatively large. Similarly, the waters off of New Orleans are relatively shallow causing it to be also subject to large surges.

A third factor is the role of ice in affecting storm surges and wave action. The presence of ice has not yet been taken into account in the major extra-tropical storm surge models in the US (ESTOFS and ET-SURGE). In my view, researchers are only now learning how to take ice conditions into account in storm surge and wave modeling. In support of their coastal protection projects in Western Alaska, the US Army Corps of Engineers (USACE) has employed the ADCIRC circulation and storm surge model to simulate surges from the major Western Alaska storms in the last 30 years. The Corps found that they could account for the presence of ice in the Beaufort and Chukchi Seas by enhancing the surface roughness used in the model. Interestingly, they found that the presence of ice lead to an enhancement of the storm surge.

A fourth factor is the vulnerability of Alaska coastal communities. Many Alaska coastal communities are especially vulnerable to storm surges because (a) the quality of the forecasting information that is available is low and (b) often communities are located on barrier islands from which there are no standard evacuation routes. Further, climate change is thawing ice that historically had protected communities from storm waves or it is causing subsidence (land sinking) which make communities more vulnerable to storm surges.

*Current storm surge modeling effort in Western Alaska:*

Robert Grumbine (NOAA, NWS) and Joannes Westerink (Notre Dame) are currently developing a coarse-grid storm surge and wave model for Western Alaska. They are developing the storm surge code to explicitly account for ice conditions. The goal of their work, funded by the Western Landscape Conservation Cooperative, is to provide information on the overall vulnerability of the Western Alaska coastline. Also, they intend to produce an operational version of the code. UAA has developed and validated a fine-scale storm surge model for the YK Delta that I have discussed in my testimony to the Committee. Earlier, within the two week period following the Sept. 13 2013 hearing, I provided a mini-proposal to develop a demonstration project to show our ability to provide accurate, high resolution projections of storm surge and inundation for an example site in Western Alaska. Drs. Grumbine and Westerink were co-PI's on that mini-proposal.

2. *During your testimony you described the potential hazards associated with salt water creep/overflow into critical infrastructure. How can the academic/scientific community work with emergency managers and communities to help inform development and construction decisions?*

**Ravens response:**

The US Army Corps of Engineers has conducted a study of the vulnerability of coastal communities to coastal erosion. However, there has been no similar study to address the vulnerability of coastal communities and their critical infrastructure to inundation due to storm surges, enhanced by sea level rise.

The academic/scientific community could readily develop and apply simple storm surge models to determine community and infrastructure vulnerability to storm-induced inundation, enhanced by sea level rise. It is worth noting that different types of infrastructure are differently vulnerable to sea level rise/storm surges. For example, waste water retention ponds and non-flowing surface water sources of drinking water (e.g., fresh water ponds) would be significantly impacted by a single flood event. Hence, coastal communities and emergency managers would like a flood map showing the frequency of inundation in different locations in the community, both under current conditions and assuming a range of site specific sea level rise scenarios. The flood map would resemble conventional flood plain maps used by hydrologistS depicting 15, 30, 50, and 100 year flood plains.

Other types of critical infrastructure, like groundwater-based drinking water systems, would require a different type of vulnerability assessment. For groundwater-based drinking water systems, vulnerability would be assessed based on the frequency and severity of contamination of the fresh drinking water by salty ocean water. Vulnerability assessment would therefore involve both storm surge and inundation modeling and groundwater flow modeling. For this type of infrastructure, the academic/scientific community could readily fashion an appropriate vulnerability index. For example, the index might quantify the frequency at which well water would be contaminated above a given level (established by drinking water and public health experts). The academic/scientific community could produce maps (similar to those depicting the 15, 30, and 50 year flood plains) which indicated the return period of excessive well water contamination in different locations. A different set of maps would be produced for the various sea level rise scenarios.

In conclusion, the academic/scientific community – working in partnership with coastal communities, planners, and emergency managers – could readily produce a set of “vulnerability” maps for each potentially vulnerable community. There would be a different map for each type of critical infrastructure (or perhaps it would be possible to combine all of the information into a single map). There would be a set of maps for current conditions and there would be a set of maps for the different sea level rise scenarios (with associated time horizons). The maps would be used to inform development and construction decisions.

**Post-Hearing Questions for the Record  
Submitted to Melanie Bahnke  
From Senator Mark Begich**

**"Extreme Weather in Alaska: State and Federal Response to Imminent Disasters in the Arctic"**  
**September 13, 2013**

1. What role do regional tribal non-profits play in assisting villages when trying to utilize federal assistance to address the effects of erosion and flooding on individuals and public infrastructure?

Tribal non-profits assist communities access both federal and state assistance. We advocate on their behalf, seek resources, and link tribal communities to those resources. Tribal non-profits could be doing more, if provided resources. We also leverage funding for some studies and projects, mainly in coordination with the USCOE. For example, we already build roads with tribal transportation funds. We could be coordinating more with the USCOE to further studies and build infrastructure to protect communities from the effects of erosion and flooding, as well as coordinate relocation in partnership with federal agencies.

2. At the end of your written statement, you provide a very comprehensive list of recommendations for future action to address the critical issues related to climate change and erosion in Alaska. As action on all of these recommendations will undoubtedly need to be done in phases, could you prioritize the recommendations based on the most critical/immediate needs of Alaskan villages?

The recent fall storms and flooding warrant immediate protection from the next round of fall storms. The most at-risk communities need infrastructure to protect communities from flooding and imminent threat. For example, the seawall in Teller was partially washed away this fall, and will result in a higher risk of disaster for Teller next fall. The first priority needs to be protection of life and property before the 2014 fall storms occur.

Post-Hearing Questions for the Record

Submitted to David Miller

From Senator Mark Begich

“Extreme Weather in Alaska: State and Federal Response to Imminent Disasters in the Arctic”

September 13, 2013

1. The purpose of this hearing is to assess the “whole community” approach to addressing the needs of vulnerable communities. From your perspective as the head of mitigation for FEMA, what are the federal government’s opportunities to assist Alaska communities in response to the ongoing threats from coastal erosion and land subsidence that does not warrant a Stafford Act declaration? Are there policy gaps in these programs that create barriers to support Alaska communities?

Response: FEMA administers two Hazard Mitigation Assistance programs that do not require a major Presidential disaster declaration for implementation. The Flood Mitigation Assistance (FMA) and Pre-Disaster Mitigation (PDM) programs provide funds annually to States, Territories, Indian Tribal governments, and local governments. The FMA program is authorized by Section 1366 of the National Flood Insurance Act of 1968, as amended (NFIA), 42 U.S.C. 4104c. The PDM Program is authorized by Section 203 of the Stafford Act, 42 U.S.C. 5133. Both the FMA and PDM programs share the common goal of reducing the risk of loss of life and property due to natural hazards, and are subject to the availability of appropriation funding.

FMA and PDM mitigation measures must be cost-effective, feasible, and effective toward mitigation of risks per design, and, for FMA projects, in the interest of the National Flood Insurance Fund. All Applicants (States, Territories, Indian Tribal governments) for the FMA and PDM programs must have a FEMA-approved State or Tribal Mitigation Plan, and subapplicants (local governments, communities, and Tribal governments) must have a FEMA-approved local or Indian Tribal mitigation plan. Funding is available to develop or update State or local/tribal mitigation plans.

The State of Alaska embarked on a major initiative in 2005 to assist small rural communities throughout the State to assess their hazard vulnerability and develop local hazard mitigation plans compliant with FEMA standards. FEMA has been actively supporting the State to address this eligibility requirement. The State has received planning project awards to contract for direct provision of planning technical assistance to these rural communities. As a result over 50 rural villages have been certified as having FEMA-compliant hazard mitigation plans, and planning

efforts are currently underway to assist 22 additional rural villages. Over the last 5 years, FEMA has provided over \$2 million in funding for planning through the PDM grant program, plus additional funding through the Hazard Mitigation Grant Program, to support local planning in Alaska. We will continue to support the State's efforts to assist their local communities and Alaska Native Villages to develop and regularly update mitigation plans to expand eligibility for project funding.

National Flood Insurance Program (NFIP) participation, in addition to approved hazard mitigation plans, is required by statute in order for communities to receive grant assistance through the FMA Program. In addition, mitigation projects must benefit properties that have current NFIP policies in force. The value of FMA funding to communities is one incentive for States, tribal and local communities to work toward increased NFIP participation and hazard mitigation planning.

The NFIP currently has 32 participating communities in Alaska, representing boroughs, cities, towns, and Alaska Native village municipalities. Collectively they maintain \$538 million in flood insurance coverage. Since 1978, the NFIP has paid 398 claims for \$3.8 million to Alaskan residents. Twenty-nine of the 2,656 policies statewide are subject to coastal flooding and erosion hazards.

FMA grants assist States, Indian Tribal governments, territories and communities, including the Alaska Native village municipalities, to implement measures that reduce or eliminate the long-term risk of flood damage to various NFIP-insured structures. Eligible mitigation activities for NFIP insured properties include: soil stabilization; the acquisition, elevation, relocation, demolition or floodproofing of structures in Special Flood Hazard Areas (SFHAs); mitigation reconstruction; the acquisition of properties substantially damaged by flood; the elevation, relocation, or floodproofing of utilities (including equipment that serves structures); minor physical flood mitigation efforts; the development or update of State, Tribal government or community mitigation plans; technical assistance by States to communities and individuals to conduct eligible mitigation activities; and any other activities specified by regulation. Federal cost share for mitigation activities under FMA start at 75%, and range up to 100% for NFIP-insured properties meeting the criteria for severe repetitive loss.

Many of the remote Alaskan communities vulnerable to flooding and erosion have not been mapped for flood hazard areas and are not participating in the NFIP, as required for FMA. In 1998, the municipality of Shishmaref joined the NFIP and as a result became eligible for, and received, a \$600,000 FMA grant to relocate structures subject to high risk from flooding. In 2001 Shishmaref received their first published Flood Insurance Rate Map. However, many Alaska Native Villages are not in the NFIP because they have no land use authority to pass and enforce a floodplain management ordinance required for participation. In 2006, FEMA funded a \$46,000 project through the Hazard Mitigation Grant Program (HMGP) to relocate Shishmaref's computer cottage. A disaster declaration is required to make grants available under HMGP.

The PDM program provides funds to States, territories, Indian tribal governments, communities, and universities for hazard mitigation planning and pre-disaster mitigation projects; and is designed to assist States, Territories, Indian Tribal governments, and local communities to implement a sustained pre-disaster natural hazard mitigation program to reduce overall risk to the population and structures from future hazard events, while also reducing reliance on Federal funding in future disasters. PDM grants are awarded on a competitive basis; eligible mitigation activities are the same as those under FMA, with the exception of mitigation reconstruction. Federal cost share for mitigation activities under PDM is 75% or 90% for communities meeting small impoverished community criteria. A Federal share of up to \$3 million may be requested in a subapplication to implement a mitigation project.

Additionally, the non-Federal cost-share requirements of our FMA and PDM can pose a problem if a State passes on these costs to local communities with limited financial resources, similar to that of the Alaskan Native Villages. The Federal government by statute will pay 75 percent of the eligible costs, with the remaining 25 percent paid by the State, tribal, local government, or third party contributions. However, under the FMA grant program, the federal government may pay up to 100 percent of the eligible costs of a grant, depending on whether the subject property(ies) is determined to meet the requirements to be considered a repetitive loss or severe repetitive loss property, as defined by law. In addition, for the PDM grant program, Alaska Native Villages may be eligible for a 90/10 cost share due to the “small, impoverished” community classification specified in the law,

Additional coordination between Federal agencies may often be necessary to avoid Duplication of Programs (DOP), defined in FEMA program regulations as a use of Hazard Mitigation Assistance (HMA) that substitutes or replaces program or project funds available under other, more specific Federal authorities. FEMA will not provide assistance for activities for which it determines the more specific authority lies with another Federal agency or program. The U.S. Army Corps of Engineers may have more specific authority for activities related to coastal erosion and subsidence in Alaska. This can only be determined on a site-specific basis, based on the type of activity in question, the purpose of the activity, and period of assistance availability.

2. Moving forward, mitigating these extreme weather effects critical for the communities in my state as well as a national priority. But, are we “Prepared to Mitigate?” In March my subcommittee held a hearing on FEMA’s preparedness grant programs—where we have spent almost \$50 billion in preparedness grants since DHS was created. But, how much in these preparedness grants have we spent on building mitigation capabilities? Does the current preparedness grant process overemphasize Response capabilities at the expense of Recovery or Mitigation capabilities?

Response: After analyzing our grant reporting data base, the Grant Reporting Tool, a nationwide search indicates that there is no clear reference to, or specifically identified project(s)/funding associated with the mitigation of or activates associated with mitigating for "Extreme Weather in Alaska and or the Arctic Region" or any other specific geographical areas.

**Post-Hearing Questions for the Record**  
**Submitted to Kenneth Murphy**  
**From Senator Mark Begich**

**"Extreme Weather in Alaska: State and Federal Response to Imminent Disasters in the Arctic"**  
**September 13, 2013**

1. This year, the GAO released a report on participation of Indian Tribes in flood insurance programs. The report found that, although most tribal governments do not participate in the flood insurance program because their tribal governments lack the ability to enact and enforce local land use laws, there are over 100 Alaskan tribes (of 225 tribes) that could participate because they are located within an incorporated area that is eligible to participate in the NFIP. GAO recommended that the:
  - FEMA Administrator examines ways to make mapping of tribal lands in flood-prone areas a higher priority. In response, FEMA said it will take steps to make mapping of tribal lands a higher priority. But this will be challenging due to FEMA's scarce resources. In addition, FEMA will consider the suggestions made by tribal representatives for increasing tribal participation in flood insurance programs.
  - a. Could you tell us what additional outreach FEMA Region X is doing with these communities?
  - b. In what ways is FEMA's outreach being coordinated with other federal, state, regional organizations --such as a "Silver Jackets" program? (*Note: The Alaska programs revised charter was signed by FEMA, USACE and the State as of May 2013*)

**Response:** FEMA Region X actively works with the Alaska Department of Commerce, Community, and Economic Development (DCRA) and the Alaska Municipal League (AML) to develop, prioritize and educate tribal governments on identifying the flood risk and mitigation strategies to reduce the risk to flooding. DCRA has supported FEMA's delivery of Risk Mapping, Assessment, and Planning (MAP) program and Floodplain Management support to assist communities, villages and tribal governments throughout the State of Alaska. FEMA utilizes DCRA expertise to place an emphasis on enabling communities and tribal governments to better integrate hazard assessment data and mitigation actions into local and state mitigation, emergency, and business plans.

AML is a nonprofit, nonpartisan, statewide organization of 140 cities, boroughs, and unified municipalities. FEMA Region X and AML work together to increase public awareness and risk reduction actions to participating communities, and inform local officials and decision makers on State and FEMA identified mapping and insurance strategies. FEMA Region X is also a new

partner with the Alaska Silver Jackets and will continue to coordinate flood risk reduction messaging and flood mapping projects within the State of Alaska.

**Post-Hearing Questions for the Record  
Submitted to Col. Christopher D. Lestochi  
From Senator Mark Begich**  
**"Extreme Weather in Alaska: State and Federal Response to Imminent Disasters in the Arctic"**  
**September 13, 2013**

1. In your 2009 report you noted that 178 Alaska communities were found to have reported erosion problems, and designated 26 communities as "Priority Action Communities"—indicating that they should be considered for immediate action. We found, however, that this analysis did not assess flooding threats because, according to Corps officials, "it lacked the authority for such an assessment." I am concerned that without a comprehensive assessment of both erosion and flooding threats that villages face, federal agencies lack the necessary information on the magnitude of the problem and on how best to prioritize and target limited resources.

**1a) Is there a comprehensive, long-range plan for these communities that considers all the hazards we are discussing today?**

Answer: The most comprehensive plans are the Local Hazard Mitigation Plans, managed by FEMA and the State of Alaska. Of the 178 communities that reported erosion problems, 63 community hazard mitigation plans are currently on file with the State of Alaska. The breakdown of these communities is as follows.

16 of the 26 Priority Action Communities have plans

Akiak	Golovin	Newtok
Alakanuk	Huslia	Saint Michael
Barrow	Kivalina	Shaktoolik
Cordova	Kotlik	Shishmaref
Dillingham	McGrath	Unalakleet
Emmonak		

28 of the 69 Monitor Conditions Communities have plans

Alatna	Lower Kalskag	Ouzinkie
Aniak	Upper Kalskag	Point Hope
Bethel	Kenai	Russian Mission
Evansville	Kipnuk	Seward
Galena	Kotzebue	Soldotna
Gulkana	Koyukuk	Valdez
Haines Borough	Kwethluk	Wainwright
Homer	Nome, City of	Wasilla
Hooper Bay	Nuqsut	
Kaktovik	Old Harbor	

19 of the 83 Minimal Erosion Communities have plans

Akhiok	Larsen Bay	Sleetmute
Akiachak	Point Lay	St. Paul
Allakaket	Port Lions	Stebbins
Anchorage	Red Devil	Teller
Anvik	Sitka	Togiak
Holy Cross	Skagway	Yakutat
Juneau		

The State of Alaska Department of Homeland Security and Emergency Management (DHS&EM) provided the Corps with the list of communities with Local Hazard Mitigation Plans (LHMP) and the following useful information regarding the funding and development of LHMP.

The Hazard Mitigation Program is developed and managed by FEMA. Recently, FEMA developed "The Local Mitigation Planning Handbook" and the "Local Mitigation Plan Review Guide" to explain the required contents of a LHMP. DHS&EM distributes these publications to communities developing their own LHMP's. DHS&EM also assists them with plan writing and reviewing; communities submit their plan drafts to the State for a cursory review and edit session. Upon determining the plan draft meets FEMA requirements, the State presents the final plan draft to FEMA for formal review and approval.

Communities writing their own plans may apply for mitigation planning grants through the following programs:

1. Hazard Mitigation Grant Assistance Program (HMGP) using funds from a federally declared disaster.
2. Pre-Disaster Mitigation (PDM) administered by Congress.
3. Flood Mitigation Assistance (FMA), eligibility requires NFIP participation.
4. Hazard Mitigation Technical Assistance Program (HMTAP)

Another option is State managed plan contracting. The State maintains a list of communities which have requested LHMP assistance. The State applies for and manages federal grants listed above for LHMP development. RFP's, contractor selection, and formal planning contracts are managed by the State. Depending upon the grant amount, LHMP contracts typically involve blocks of 10 to 15 communities over a 12 month performance period. This is the most common method of mitigation plan development in the State of Alaska.

**1b) What is the Corps' current and future structural mitigation efforts for these Alaska's communities?**

Answer: All of the 26 communities identified as Priority Action Communities under the Alaska Baseline Erosion Assessment were contacted by mail and telephone to advise them of their options for Corps assistance. The Corps communicated that the Continuing Authorities Program (CAP) may be the most applicable Corps program, specifically Section 14 – Emergency Streambank Erosion or Section 103 – Small Shore Protection Projects. Both programs have

authorized funding limits and the plan has been to determine if any problems could be addressed within the boundaries of these programs and then give the community instructions on potential next steps depending on the magnitude of a particular problem. Section 117 of the Energy and Water Appropriations Act of 2005 provided for structural and nonstructural projects at full federal expense under which the Corps implemented projects in communities as described below. Section 117 was repealed in 2009 and was eventually replaced by Section 116 of the Energy and Water Development and Related Agencies Appropriations Act of 2010 which provided for similar activities with cost sharing of 65% Federal and 35% Non Federal.

When a community provided a letter, their request was reviewed to determine what assistance might be available. The following is a brief summary of the 26 Priority Action communities' status.

Akiak – No letter request submitted.

Alakanuk - No letter request submitted.

Barrow –A Technical Report was completed in 2009 that identified projects ranging in cost from \$28 million to \$807 million (2007 Prices) to provide protection for Barrow. None of these had a positive benefit to cost ratio. Community was advised about the Section 116 program.

Chefornak – A CAP Section 14 study initiated in 2005 showed that the project was too large for the Section 14 program and largely protected private structures. Community was advised about the Section 116 program.

Chevak - No letter request was submitted since the 2009 report.

Clark's Point - No letter request submitted.

Cordova/Eyak - No letter request submitted.

Deering - No letter request submitted.

Dillingham – A project for erosion protection was approved in May 2009. Project could proceed with additional authorization.

Emmonak – The community sent a letter requesting assistance under CAP Section 14. Further investigation determined the erosion damage that could be repaired by a Section 14 project had largely been addressed through other measures.

Golovin – The community submitted a request for assistance under CAP Section 103. The feasibility study is ongoing.

Huslia – The community submitted a request for assistance under CAP Section 14 in 2011.

Kivalina – 2,000 feet of shoreline protection was installed under Section 117 in 2008-2009 at a cost of \$13.5 million. An additional 1,300 feet has not yet been installed and would cost approximately \$10.6 million (2010 dollar estimate) in order to complete the project. A Section 116 project to finish the original project could begin on completion of an updated non-federal cost sharing agreement. Assistance has been provided under the Corps Planning Assistance to States program to provide the community plans and support for relocation efforts.

Kotlik - The community submitted a request for assistance under CAP Section 14 in 2009.

Kwigillingok - The community submitted a request for assistance under CAP Section 103 in 2009. Funding to initiate was received in 2013. An initial assessment of eligibility is ongoing.

Lime Village - The community submitted a request for assistance under CAP Section 14 in 2011.

McGrath - No letter request submitted.

Napakiak - The community submitted a request for assistance under CAP Section 14 in 2009. Funding to initiate was received in 2011. The Corps determined the problem/solution would exceed the authorized funding level for the CAP Section 14 program.

Newtok – The Corps is currently providing ongoing planning assistance under the Planning Assistance to States program to provide the community plans and support for relocation efforts.

Nunapitchuk - No letter request submitted.

Port Heiden – A request was received from the community in 2011 under a Corps navigation authority to relocate their most affected infrastructure (barge landing). An initial assessment of eligibility is ongoing.

Saint Michael - The community submitted a request for assistance under CAP Section 14. The Corps is developing a solution that will implement a 1,000 foot long revetment at a total cost of \$1.7 million.

Selawik - The community submitted a request for assistance under CAP Section 14 in 2009.

Shaktoolik – The Corps recently completed an assessment of coastal flooding and an assessment under CAP Section 103. The problems/solutions exceed the authorized funding level for applicable CAP programs. Community was advised about the Section 116 program.

Shishmaref – 1,375 feet of shoreline protection was installed under Section 117 in 2007-2009 at a cost of \$19.4 million. An additional 1,775 feet has not yet been installed and would cost approximately \$22 million (2010 dollar estimate) in order to complete the project. The cost sharing agreement is being amended to complete the project under Section 116.

Unalakleet – Utilizing Section 117, a project was identified to install 1,500 feet of shoreline protection. 671 feet were installed at a cost of \$18.8 million. When Section 117 was repealed,

the construction was continued under Section 116 whereupon the locals provided a 35% cost share provided by the City of Unalakleet.

**2. One of the more well-known examples of a “non-structural mitigation program” is FEMA’s flood insurance program – the NFIP. We would like to hear your agency’s perspectives on how the NFIP program and its flood maps are coordinated with Corps of Engineer’s projects. Further, what is your expert opinion on the quality and potential limitation of these flood maps in Alaska?**

Answer: The Corps coordinates the development of flood maps in two ways. First, when the Corps develops a flood risk management project, the results of the study (including the topography, flood elevation modeling, etc) are given to FEMA to utilize in developing their maps.

The second way the Corps coordinates in the development of flood maps is when FEMA requests and funds the corps to develop flooding analysis which then FEMA uses to produce a map for a specific community.

**2a) How good are these maps?**

Answer: Flood maps are a high quality, useful tool for the public and local jurisdictions to use in zoning, development, and other land management decisions. The usefulness of a map, however, lessens as it ages. Having to rely upon older maps is an issue in Alaska. Rivers migrate, land uses vary, and rainfall patterns change over time, all of which affect the accuracy of an aging map. Many of the Alaska flood maps were created by the Corps in the 70s and 80s.

A larger issue is not the quality of maps; it is the lack of flood maps as a whole. The Corps maintains a website of flood information for 330 communities throughout Alaska, however only 88 have a FEMA map. The remainder of the communities have flood information based upon oral history and unverified high water marks. This information is provided to the public through the Corps floodplain management program in cooperation with the State of Alaska.

**2b) What challenges occur in achieving quality flood maps for Alaska communities?**

Answer: The main challenge is the lack of data.

**2c) What will it take -and how long - to improve Alaska’s flood maps?**

Answer: The requirements to develop a flood map depend greatly upon the amount of available data. As an example for communities on the road system, the Corps recently completed flood maps for FEMA in the communities of Cooper Landing, Anchor Point, and Ninilchik for a cost of about \$550,000. For communities where data is scarce, the cost would be greater. Each mapping effort takes several months to prepare, once again dependent upon availability of data and accessibility to the community in question.

